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PART FIRST.
ORIGINAL COMMUNICATIONS.

ART. I.—*A Treatise on the Epidemic Erysipelatous Fever of the United States.* By H. N. BENNETT, M. D., of Bridgeport, Conn.

A DISEASE of a peculiar character, and which has displayed a great uniformity in its general symptoms, those referable to the vital sources and centres, but at the same time presenting an extended diversity of local lesions, developed under the direction and impress of the genius of the disease, has prevailed during a period of ten or twelve years past, over a large extent of territory in the United States, extending from Vermont and New Hampshire on the north, to Virginia, Indiana, Illinois, Missouri, and Mississippi on the south and west. This disease has been described by different authors who have witnessed it, under the various appellations of "Epidemic Erysipelas," "Epidemic Erysipelatous Fever," "Black Tongue," &c.; the latter being a popular and most absurd name, derived from a rare symptom of the malady.

I have given the preference to the name of *Erysipelatous Fever*, since this malady evidently belongs to that class of diseases, which manifest notable general disorders previous to the appearance of any local symptoms or lesions.

Chills, rigors, disturbances of the functions of the first passages, diminution of the urinary excretion, a quickened circulation, &c., are the premonitory symptoms of this as of other febrile diseases which appear to have their origin in a specific cause impressed upon the organism in a manner unknown to us in the present state of science.

Notwithstanding the numerous historical accounts of this epidemic in different localities, I believe no author has yet undertaken the task of producing a methodical paper, describing the disease as a distinct and well-characterized affection, and drawn up from an aggregation of all the information which can be obtained upon the subject. That Erysipelatous Fever is a disease having fixed characters, and displaying sufficient uniformity in its symptoms to impress upon it the seal of a specific malady, even when subjected to the eccentric tendencies of the epidemic impulse, I think will not be questioned by any one who has traced its history in this country. In composing the present treatise, the author will draw from all the sources of information within his reach, as well as largely from his own experience in the disease.

The first account of importance, given of this disease in this country, is that of Dr. George Sutton of Aurora, Indiana, published in the *Western Lancet*, for November, 1843. According to this writer, the disease commenced in the latter part of November, 1842, in Ripley Co., near Ripley Creek, and from thence extended in a southeasterly direction over a section of country, varying from ten to fifteen miles in width, and about thirty in length, following the course of some small streams which empty into the Ohio. A few cases occurred in the adjoining county upon the opposite side of the river. Dr. Sutton observes, that it is remarkable that it did not spread towards the west, but adds, that at about the same period, an epidemic of a similar character did prevail a little to the northwest of the locality above mentioned.

The next account in order, is that of Drs. C. Hall and G. Dexter, in the *American Journal of the Medical Sciences*, Jan., 1844, who adopt the name of "Erysipelatous Fever." These gentlemen give a history of the disease as it prevailed in various portions of the State of Vermont, and state, that "as far

as the inquiry has been extended, the answer has corroborated the statement, that in the spring of 1842, it was noticed as an epidemic," and that "there is no satisfactory evidence that it observed any particular line of progress; on the contrary, the proof is conclusive that its course has been irregular and erratic." According to their own account, however, those sections of country bordering upon the Connecticut River, and the shores of Lake Champlain, suffered most severely from this fearful scourge. From these lines it occasionally diverged in various directions, to localities of different points of the compass, and different geological formations. The period of duration of this epidemic, according to the best sources of information, was about two years, dating from the fall of 1841, or the spring of 1842.

Another account of the same epidemic, is given by Dr. J. A. Allen, in the *Boston Medical and Surgical Journal*, Jan., 1844, as it manifested itself in Middlebury, Vt., a town lying upon Otter Creek, a considerable stream emptying into Lake Champlain. The disease was also prevailing at the same time in several towns in New-York, also lying upon the borders of Lake Champlain and Lake George.

In the *Illinois Medical and Surgical Journal*, June, 1844, Dr. D. Meeker makes a report of this epidemic, which made its appearance at Michigan City, Ia., in December, 1843. This town lies on the southeast shore of Lake Michigan. Dr. Shipman describes the same epidemic in the same vicinity, in the *New-York Journal of Medicine*, for January, 1846. He observes, that from Michigan City, it spread to St. Joseph's Co., and during the summer and autumn over a wide section of country in Northern Indiana and Southern Michigan. Dr. S. witnessed the disease himself at Laporte, in December, 1844, and January, 1845. According to the best information which I can obtain, this epidemic continued without any marked interruption, for a period of nearly three years, during which time it was attended by a fearful mortality in those sections of the country above mentioned.

In the same article, Dr. Shipman describes the disease as it prevailed in Central New-York, in Cortland, and the adjoining counties, where it continued its ravages for a period

of over three years in different localities, commencing in the autumn of 1842. I may here observe that the streams of water in this section of New-York, generally have a southern inclination, and empty into the Susquehanna River, near the Pennsylvania line, and that the epidemic extended in this direction.

We hear from other sources, of the prevalence of the disease in Pennsylvania in 1844, described by Dr. Jesse Young; in Mississippi in 1844, described by Dr. Lovelace; in Michigan, in the vicinity of Livingston, about the same period or a little later, a brief notice of which is given in a letter to the editor of the *New-York Journal of Medicine*, July, 1847, by Dr. S. Glisson.

In the fall of 1847, this epidemic appeared in our own town, dropping down upon us, as if from Pandora's box, and for a time scourging us with a severity which almost precluded Hope itself. A general history of it has been given in the *New-York Journal of Medicine*, for May, 1848, which does not extend, however, over the whole period of its duration, which was nearly one year. During this time I witnessed about 150 cases of the disease in all its forms, varying from a simple anginose affection, terminating in speedy recovery, to a most malignant case of cutaneous and areolar erysipelatous inflammation, terminating in gangrene and death.

From all that can be gathered of the history of this malady in the various sections of the country to which allusion has been made, I am able to obtain little of importance referring to the geological character of the regions invaded; and it would seem from the numerous and distant points which were attacked almost simultaneously, that no uniformity can exist in this respect in the different localities. One conclusion, however, I think may be fairly drawn, in regard to the progress of the epidemic from its points of departure. It has very uniformly followed the course of small streams, rivers, and lakes, generally from the sources of rivers towards their mouths; and this fact would seem to indicate a preference for secondary and tertiary formations. This, however, if true, is not peculiar to the epidemic under consideration; it simply indicates an analogy between it and other diseases which at different periods assume the higher form of development.

These epidemics have been preceded by no unusual phenomena in the ordinary diseases incident to the seasons at which they occurred, with the exception in some instances of the unusual prevalence of anginose affections. The seasons themselves have presented nothing unnatural, no atmospheric phenomena, and no tangible evidences of morbific effluvia. As the whole subject of the cause of epidemics, is shrouded in mystery, I shall offer no new hypothetical views upon this point; and no positive information can be gathered, connected with the rise, progress, and decline of the disease now under consideration, which throws any light upon this occult subject, with the exception, perhaps, of a bearing upon the question of contagion, to be hereafter considered.

Special Symptomatology.—Of the premonitory symptoms of this disease there is a considerable diversity. In some instances it is ushered in by the ordinary pyrexial symptoms, accompanied by sore throat more or less severe; enlarged tonsils and swelling and tenderness of the lymphatic glands of the neck; difficult deglutition; sometimes painful respiration, attended with lassitude, pain in the back and limbs, more especially of the knee joint; and frequently nausea and retchings; the breath uncommonly offensive; the tongue covered with a grayish white slime, through which the mucous membrane may be seen of a deep red color. The bowels are more or less constipated, sometimes insensible to the action of cathartics, but generally easily moved. The pulse frequent and depressed, the hands and feet cold and clammy, the skin contracted, and the general expression shrunken and haggard.

These symptoms are ordinarily succeeded, generally in twenty-four hours, by a chill, sometimes a severe rigor, followed by general reaction, with frequent and bounding pulse. The chills, however, instead of subsiding, as in the accession of the hot stage of other fevers, are more persistent in their duration, and are frequently protracted through the continuance, and indeed through all the stages of the paroxysm; in some instances, also, through the remissions, even embracing the whole twenty-four hours; and although the chill sometimes continues during the period mentioned, even when the body is preternaturally warm, the skin is at the same time bathed with a copious acrid perspiration.

Another mode of attack differs very much from that just described. The patient is suddenly overtaken in the midst of apparent health, with a sense of coldness painful in the extreme, soon followed by severe rigors. These symptoms are succeeded by pain in the head, abdomen, back and joints, or some or all of these at the same time, and in the course of twenty-four or thirty-six hours, succeeds the angina above mentioned.

The anginose affection has been observed by all authors who have described the disease. In the milder forms there is but little tumefaction of the tonsils or adjoining mucous tissues; the throat is of a bright rose color, the mucous follicles enlarged; in rare instances the mucous membrane of the posterior fauces is paler than natural, and appears as if œdematous. As the disease progresses, this membrane is often covered by a layer of mucus mingled with pus, which entirely obscures the color which the part presents at this time.

In the more malignant form, the pharynx assumes a dark purple color, which spreads gradually over the palate, tongue and sides of the cheeks, the tongue becoming very much swollen, and finally taking on a dark brown appearance. Ash-colored sloughs are frequently seen upon different portions of the mucous membrane, especially upon the roof of the mouth and velum, which fall out leaving ulcerations of considerable depth and very unhealthy cast. In this state the exhalations from the mouth are horribly fetid, the sense of taste is abolished, and deglutition difficult and painful.

This inflammation of the throat sometimes passes down the trachea, with symptoms resembling croup; sometimes it passes up into the nostrils, and from them to the frontal sinuses, and even into the antrum maxillare. Sometimes this mucous inflammation appears to *commence* in the frontal sinuses and antrum; large quantities of water are discharged from the nose, a violent pain is felt over the eyebrows or one of the malar bones, the face becoming so much swollen as to close the eyes; and these symptoms generally continue till a cutaneous erysipelas makes its appearance, or a copious discharge of bloody mucus is poured out from the nose.

The anginose affection, I believe to be a universal accom-

paniment of epidemic Erysipelatous Fever, and I find no authority which militates against this view. This local lesion is as common to the malady under consideration, as it is to Scarlatina, and forms a striking analogy between the two diseases. A peculiarity which occurs frequently in this angina, but not according to my experience universally, is the relaxation and elongation of the uvula, which is observed to have suspended from its extremity a pellicle of viscid limpid mucus, sometimes resting on the tongue, which is very soon reproduced after being removed by the efforts of the patient, or by a sponge introduced for this purpose, evidently owing to a constant exudation going on from the part. Dr. Peebles, of Virginia, was the first to make this observation, and he states that it occurred in all the cases which he witnessed.

Accompanying the angina, it is almost universal that the lymphatic glands of one or more regions of the neck, are inflamed and swollen. They are readily felt by the finger in the early stages of the disease, and red lines may be often traced upon the skin passing from one to the other. In a few cases I have seen these glands enormously swollen, pass on to suppuration, or remain a long time indurated after convalescence has been established.

Neuralgic pains about the temples and in the occipital region are almost as frequent as the lesions just described, and in my opinion are mere reflections of the irritation produced by the mucous and glandular inflammations.

At a period varying from one to fifteen days after the development of the prodromi above described, various other inflammatory lesions commence, all, however, bearing the impress of a specific origin, and pursuing a course under the direction of the peculiar genius of the malady. One of the most common is that of cutaneous erysipelas, which according to my experience occurs in about one-sixth of the cases. This proportion is not, however, well determined, since the disease in various localities has produced different results in regard to this point. If this efflorvescence is about to appear on any part of the cutaneous surface, the patient experiences a sense of tension, heat, pungent pains, itching, and tenderness upon pressure, with diffused redness and swelling of the skin, the

swelling sometimes limited by the redness of the surface, but more often extending beyond it. The degree of tumefaction varies very much according to the depth to which the inflammatory process extends, and to the part affected. If it is quite superficial, apparently only affecting the *rete mucosum*, the tumefaction is slight and well defined, forming a perceptible line or ridge beyond which the skin is healthy. If, however, the true skin is implicated, and the subjacent layer of areolar tissue, the swelling is much greater, and is not bounded by the superficial redness. The parts for some distance beyond the red line are slightly tumefied, and many times exquisitely tender upon pressure.

The course and terminations of these two forms are considerably different. In the more superficial variety there are rarely seen those large bullæ, containing a thin yellowish serum, which are so common when the deeper seated tissues are involved; nor do we ever find in this form those gangrenous eschars in the early stages of the disease, which always imply a great degree of malignancy in the character of the malady. The desquamation is also less abundant, and we do not see that distention of the capillaries remaining, which if upon the face, gives to the person an unusually florid appearance and turgescence of the features after convalescence and even perfect health are established. The degree of redness also varies much according to the depth to which the inflammation extends, and to the part of the body upon which it is located. In the superficial erysipelas it is either pale or rose-colored, presenting a very uniform tint over the whole part affected; and in this form I have never seen it assume that livid hue which is so common when the whole structure of the dermis is inflamed. When situated upon the face, the redness is generally more intense than upon other parts of the body; and in the progress of the disease from the face and scalp to the neck and breast, the shade becomes lighter, more rose-colored. It is an assertion of most authors upon the subject of Erysipelas, that the redness disappears upon pressure, and soon returns when the pressure is removed. According to my own experience this is not true of those cases in which the coloration is intense; pressure may modify but by no means effaces

for a moment the erysipelatous hue, except in the superficial rose-colored variety.

There is one other form of cutaneous erysipelas, several instances of which I witnessed during the epidemic which prevailed in this town, and what is a little remarkable, its seat in every case was limited to a circumscribed portion of the skin bordering upon the eyes, giving to the patients a most singular expression of the physiognomy. The dermis and subjacent tissues are tumefied, the skin exhibiting a smooth shining appearance, with a very light shade of red, and although it does not pit upon pressure, yet is evidently in an œdematous state, arising from an early serous effusion from the cellular tissues. Incisions or punctures made in the part, exude a large quantity of sanguinolent serum, which will continue to flow for some time by the aid of an occasional application of tepid water.

All these varieties do not differ materially, so far as external visible signs are concerned, from the varieties of sporadic erysipelas described by various authors in general treatises on disease.

In a considerable proportion of cases of this malady, we have a different train of local lesions seated in the integuments of the body, more especially the deeper layers and masses of areolar tissue in various regions, one of the most common being that of the axilla. Diffuse inflammation and suppuration of the axillary and sub-pectoral cellular tissues formed the principal local lesion in one-twelfth of the cases which have occurred under my observation. After the premonitory pyrexial symptoms, together with the anginose affection already referred to, the patient experiences a distinct rigor of longer or shorter duration. This is followed by an exacerbation of the febrile movement, together with sharp darting pains in the part about to be the seat of the diffuse inflammation. At first there is no perceptible tumefaction, and this may not occur for several days, so as to be distinguished by the eye; but the part is exceedingly tender to pressure, and muscular motion is much impeded and painful. As the disease progresses, the tumefaction becomes visible, and after a long period, varying from two to six weeks, an abscess may point and discharge upon

opening a thin pus mingled with serum, together with large pieces of dead cellular membrane. These abscesses are many times very extensive, reaching deep under the pectoral muscles forward, and the latissimus dorsi backward, and destroying a large portion of the areolar tissue of these regions. These cases are universally of protracted duration, the suppuration continuing weeks and months, and many times producing, from injury done to the muscular fasciæ, permanent obstruction to the free motion of the arm.

This inflammation and suppuration of the deeper seated areolar textures, is common to all parts of the body, and occurs in several at the same time. I have seen it, commencing in the axilla, spread over the entire trunk, the tumefaction producing an enormous increase in the circumference of the body at certain points. The disease of these tissues extends often to the inter-muscular areolar membranes, terminating rapidly in gangrene of the member, or if suppuration is established, dissecting out the muscles by destroying their investing membranes. I have seen the termination in gangrene take place in eighteen hours from the commencement of the attack.

In reference to the effects of these lesions, as they occurred under their own observation, Drs. Hall and Dexter remark, that "the disorganization which was the result, detached all connection between the skin and muscles, and in not a few fatal cases, the muscles and bones; and there was formed a large quantity of a semi-putrid, thin fluid, in which the disorganized cellular membrane seemed to float, and when openings were made into the skin for the purpose of letting out this fluid, long strips of the cellular membrane protruded, resembling pieces of wet rotten linen which could be drawn out by the forceps. In like manner, portions of disorganized glands and other substances were brought away. So corroding and acrid was the fluid discharged, *that the hardest steel was directly penetrated by it as by nitric acid*, and instruments used in opening an abscess, or in detaching the membrane, were found after being laid by a few hours, to be entirely eaten through, and unfit for further use. This destructive process in the cellular tissue was unlike the gathering of an abscess;

it was without any defined boundary, the skin over it assuming a dark red color, and in some cases was checkered with petechiæ, and when punctured with the lancet, bubbles of fetid gas escaped from the opening.

The lesions already enumerated, are the least formidable of those which attend this disease at various stages of its progress. The internal mucous and serous membranes, as well as the tissue of the lungs, have been the frequent seat of inflammations of a peculiar character, and where these occur, the mortality is very great.

The first which I shall attempt to describe is the specific form of pneumonia, which is a common lesion in all epidemics of this character. Dr. Sutton makes mention of it, and observes: "These two diseases have been so intimately connected in my practice, and wherever I can hear of the epidemic prevailing, that it has been a question with me, whether the last was not a pulmonic erysipelas. The premonitory symptoms in each disease were alike; the character of the fever in each was the same; it was often the case that one form of the disease changed into the other, and we frequently had, in different members of the same family, the two forms of the disease at the same time." This statement corresponds in every particular with my own experience.

The angina is generally an antecedent of this as of all other organic lesions which occur in this disease. "After the chill, which was usually very protracted," says Dr. Sutton, "there were generally severe neuralgic pains in some part of the system; sometimes darting down the arm and side, without any tenderness of the spine that I could discover. From the pain alone, I should frequently have had difficulty in deciding whether the disease was a pleuralgia or pleuritis; however, in most cases, besides the neuralgia which was very acute and lancinating, there was a constant deep-seated pain in the side, of an obtuse character. This neuralgia in many cases was very severe, and attacked various parts, as one of the toes, darting from thence into the leg; the fingers, arms, heels, knee, elbow, shoulder, and the side of the neck. It generally subsided in the course of twenty-four or forty-eight hours, sometimes continuing in the arm or the foot until the limb

became swollen, and an erysipelas made its appearance in the part. There was generally great prostration of strength; in most cases a few ounces of blood drawn from a large orifice, produced complete syncope, followed by a profuse perspiration. The blood in nearly every instance which I saw was buffy. The cough was sometimes spasmodic at first, though not generally so; it was nearly always connected with the expectoration of a thick, ropy sputum, frequently tinged with blood. The crepitating rale at first was generally very distinct, assuming more of a mucous character after a few days; percussion after the third day, nearly always yielded a dull sound, and in several cases at the very commencement of the disease. There was generally dyspnœa, and an inability to expand the chest by a full inspiration, without aggravating the pain."

The above account of the characteristic features of this form of pneumonia, is the most perfect which I can find, and accords well with my own experience. In the cases which I have observed, the crepitating rale was mingled at the very onset with the mucous, and was soon wholly lost in the abundance of the latter. The respiration was extremely hurried, almost panting, and the pulse corresponded in frequency. It is my opinion that these cases do not proceed to perfect hepatization, as in ordinary pneumonia, and do not at all follow the order of lesions peculiar to non-specific inflammation of the pulmonic tissue. This pneumonia appears often to be a mere extension of the pharyngeal inflammation, involving in its progress the whole texture of the lungs, as well the bronchial mucous membrane as the parenchymatous tissue, and proving fatal in a large majority of cases.

The next lesion in order of frequency I believe to be that of the serous membranes, lining the various cavities of the body. Any one of these or several at the same time, may become implicated. The pleura, the peritoneum, the cerebral meninges, are each and all the frequent seat of this peculiar inflammation.

The cases of pleuritis are attended by general symptoms very similar to those above described as occurring in the pneumonia: violent neuralgic pains in different parts of the body, especially of the joints, together with an intense pain

in the side affected. The respiration is also hurried and painful, and the pulse frequent and bounding. I verified my diagnosis of one case of this character, a double pleuritis, by a *post mortem* examination. The right lung was adherent to the thoracic wall by means of loose pseudo-membranous adhesions, apparently the product of the costal pleura, which presented a diffused redness, while the visceral pleura, after the removal of the pseudo-membranous productions, appeared nearly normal. Upon the left side there were no adhesions, but an effusion of a sanguineous serum to the amount of eight ounces, and the visceral serous membrane was of a dark red throughout its whole extent. The lungs on both sides were crepitant, and were evidently very little altered from the normal condition.

This is the only case to which I am able to refer, where a *post mortem* was instituted; neither am I able, from all the sources of information within my reach, to point out any other signs or symptoms which may distinguish this from the ordinary form of pleuritis.

The cerebral meninges are occasionally the seat of this inflammation. I met with two cases of this character in our own epidemic, in both of which these membranes were attacked subsequently to the appearance of the angina and of the cutaneous erysipelas. The cases were both protracted in their duration, and the patients died with all the symptoms of effusion upon the brain. In each the external efflorescence disappeared several days before death, but not before the meningeal disease was well established.

The peritoneum is a frequent point of attack, both in the non-puerperal and puerperal states, and this is of all others the most formidable lesion to which patients are liable in this malady. I am not aware that these two forms present any striking symptomatic differences, with the exception that the latter is rarely accompanied by the anginose affection, so universal in all other forms of the disease.

In the non-puerperal state, the patients after undergoing the premonitory symptoms, and frequently after other inflammatory lesions, are seized suddenly with extreme pain in some part of the abdomen, accompanied by vomiting and di-

arrhœa. The pulse increases in frequency, being rarely less than 130 or 140 per minute; the abdomen becomes tumefied and very tender to pressure. As the case progresses, the hands and feet grow cold, the features are shrunken, the body is bathed in a cold clammy perspiration, and death closes the scene in from 24 to 72 hours after the attack.

An autopsy exhibits the peritoneum dark and injected, its cavity containing a thick dark serum evolving a most loathsome odor, in which are occasionally found floating patches of recently formed membrane. Slight adhesions to the viscera sometimes occur, but they are loose and easily broken up. The viscera themselves are often softened, of a dark color and highly congested with blood.

In the post-puerperal state the attack is ushered in by a severe chill, which almost invariably takes place within 48 hours after delivery. So certain is this, that in the epidemic in this town, I was in the habit of saying to females who escaped beyond this period, that they were perfectly safe, and in no instance was my prediction invalidated. This chill may be of longer or shorter duration, and often a succession of rigors is observed during the first 24 hours. These are soon followed by a violent reaction, a frequent, small and wiry pulse, acute pains in the abdomen and region of the uterus and its appendages, a sighing respiration, and great prostration of the muscular powers. In rare instances of this disease, there is no pain whatever, no tympanism of the abdomen, and the lochial discharge and the secretion of milk continue almost to the hour of death. The progress of this form of puerperal peritonitis is very rapid, its duration rarely extending beyond one week, where the case is fatal, and a majority dying within five days from the attack. Occasionally death takes place within 24 hours, the patient never rallying from the overwhelming onset. In these latter cases the chill is protracted, the pulse depressed and extremely frequent, 140 to 160 per minute, the body bathed in a profuse warm or cold perspiration, usually the former, the pupil of the eye contracted, the features shrunken, and the intellect clear to almost the last moment. In cases more protracted, when the abdomen becomes enormously distended, when the respiration is hurried and sigh-

ing, delirium generally supervenes toward the close of the scene. In the rare instances of recovery, the favorable change is nearly always due to the appearance of the disease in some other part, generally upon the surface of the body.

The internal mucous membranes are also sometimes the evident seat of structural lesion. I have already mentioned that of the mouth and throat. The mucous surface of the bladder, urethra and kidneys is said to suffer, producing suppression of urine and spontaneous hemorrhage from the urethra. I have no doubt, also, that the mucous membrane of the alimentary canal is often involved at the same time with the peritoneum, all the symptoms indicating this. The gastric irritability, nausea, vomiting and diarrhœa, all point to the gastro-enteric mucous coat. In the case which I examined after death, although there had been no symptoms upon the part of the first passages, the follicular patches were preternaturally developed for two or three feet above the ileo-cæcal valve, and as is usual in all developments of this kind, the nearer the termination of the ileum the greater the change. At a distance of thirty inches from the valve, the patches were slightly raised above the surrounding mucous membrane, and of a bright rose color. As I approached the valve they were more prominent, and studded with dark points, but none were in a state of ulceration. The spleen was of its natural size and consistence. The mesenteric glands were healthy.

Progress and duration of the disease.—It is impossible to define any regular order of succession as regards the local affections which arise in this protean malady. They take place sometimes singly, but more often in groups. The character of the accompanying fever, which is very generally of a typhoid type, is but little modified by any intercurrent complications, but the latter are universally modified by the former. The anginose affection is the only local lesion which very uniformly marks the commencement of the disease, and is many times the only one which is manifested. In cases of this character the duration of the disease is usually short, rarely exceeding ten days; on the other hand, where the cutaneous efflorescence occurs, the case may be protracted to several

weeks. After the continuance of the pyrexial symptoms and the angina, for a period varying from one to fifteen days, the efflorescence makes its appearance upon some point of the skin, more often upon the face, and rapidly extends from thence in various directions, occasionally passing in succession over the whole surface of the body. While the cutaneous disease is progressing, the patient complains very little of the disease of the throat, but I am satisfied by actual inspection of the parts, that it is not in consequence of the resolution of the angina, but upon the principle *duobus doloribus*, &c. The pulse is at this time very frequent, the skin dry and hot, rarely jaundiced, the urine scanty and high colored, often depositing a dark brown sediment. The neuralgic symptoms to which reference has been heretofore made, usually precede and accompany the efflorescence, and so general are they in many cases that it would seem as if the whole system were penetrated by an irritating poison operating upon the sentient extremities of the nerves. Some patients complain of a severe *neuralgic shock*, as if they were subjected to the operation of a powerful electrical machine.

When the case progresses to a favorable termination, the efflorescence begins in a few days to grow paler, an amendment is perceptible on the part of the circulation and excretions, an abundant desquamation takes place fron the diseased surfaces, and numerous small abscesses are formed. As convalescence is established, the hair often falls out, and if the face has been the seat of the erysipelas, it retains for a considerable period a florid hue, which is much increased by exposure to extremes of heat and cold. If, on the other hand, the case proceeds towards an unfavorable termination the efflorescence assumes a leaden hue, small gangrenous eschars form and soon slough out, leaving ill-looking ulcers with abrupt edges, their bases formed of dead cellular membrane. The pulse is small and frequent, the tongue dark brown, the urine scanty, diarrhœa, low muttering delirium, and death generally in about ten days from the first appearance of the external erysipelas.

The progress of those cases in which inflammations of the deeper-seated areolar textures occur, is usually more tardy,

and the duration more protracted, unless speedily terminated by gangrene. Deep-seated pains in the part about to be attacked, are the forerunners of these inflammations. They are alleged by some to be of a neuralgic character; but I think, under the circumstances, they may be more reasonably considered the result of the incipient inflammatory process. Tumefaction is soon perceptible, and after a long period, during which the constitutional symptoms continue with a fixed character, suppuration is established, not, however, in the form of a circumscribed abscess, but diffuse, and involving a large extent of the cellular tissue, a description of which has heretofore been given under the head of symptoms. Convalescence is exceedingly slow, and months pass by before perfect health is restored. The termination in gangrene may vary from twenty-four hours to ten days from the commencement of the attack. I do not know that any particular train of symptoms can forewarn us of this event. It supervenes suddenly, and when no visible signs forebode such a catastrophe.

The duration of those cases in which the viscera become involved, excepting, perhaps, lesions of the cerebral meninges, is very brief, rarely exceeding five days, the termination being in death. In the only two cases which I witnessed of the extension of the disease to the membranes of the brain, death took place in one instance in seven, and in the other in four days after the manifestation of cerebral symptoms.

Prognosis.—This depends upon the form which the disease assumes, the type of fever, the age and constitution of the patient, and above all, upon the extent and variety of the local lesions. In the cases accompanied by the angina alone, death is very rare. In the epidemic in this town, not a single fatal case occurred. The next most favorable condition is that in which the inflammatory lesions occur upon the surface and in the deeper areolar tissues. Although these sometimes terminate fatally, it is either the result of the occurrence of gangrene, or of exhaustion, produced by long continued suppuration and extensive textural disorganizations. The instances of death, however, are rare compared with the number of cases of this character. By far the most fatal are those

in which the internal organs, the serous and mucous membranes are attacked. The mortality in puerperal peritonitis is fearful. In the county of Caledonia, Vt., say Drs. Hall and Dexter, thirty cases occurred, *only one of which recovered.* In Bath, twenty mothers died of puerperal peritonitis. In Michigan City, out of ten cases only one escaped. In this town, out of fifteen cases only one escaped. From all the information which I can gather, I believe the mortality in this form of the disease may be fairly estimated at 90 per cent.

Physical character of individuals attacked.—It has been the remark of more than one who has witnessed this disease, that it seems especially to single out the old, the infirm, those afflicted with other maladies, and those of anæmic appearance and lax fibre. My own experience is decidedly of this character. Out of the fourteen who died under my care from an aggregate of eighty cases, five of them were persons over sixty-five years of age, and three others were laboring under chronic organic affections. Children are less liable than adults to this disease; and, if we consider the cases of puerperal peritonitis, females suffer much more frequently than males. Infants appear to be almost entirely exempt, except those born of mothers who become the subjects of the peritoneal inflammation. Dr. Sutton states, that "children under two years of age, almost universally escape the disease."

It was the observation of my uncle, Dr. E. P. Bennett, as well as of myself, that those females who suffer from the puerperal disease, were very uniformly of an anæmic appearance, of delicate constitution and lax fibre, and I believe that in no single instance in this town, was a female of florid countenance, firm fibre, and robust health, the subject of this fearful malady.

Is the disease contagious?—This question, which is one of so great importance, although difficult to settle definitively, has yet many facts connected with it, which lead almost inevitably to an affirmative solution. Dr. Peebles, in his account of the disease in Petersburg, Va., narrates the following facts, which are worth more than a volume of special pleading. The first case occurred in a healthy young man, named Stevens. A brother of this individual had made a visit to a town sixty

miles distant from Petersburg, where the disease was at that time prevailing, and returned home sick, with his face red and swollen, and Stevens had been in constant communication with him. On the second week of Stevens's illness, a man named Petway and several of a family named Jones, all living in the same neighborhood, were attacked with the disease. The neighbors generally, from a fear of contagion, had refused to visit Stevens, but these persons had all seen him, most of them several times a day. A young woman, sister to Petway, came six miles from her residence in the country, to act as his nurse. After continuing with him two weeks, she was herself taken down. She went to her home in the country and died in a few days of erysipelas. Two others of the family died in quick succession, and there were six cases of erysipelas in this neighborhood, all occurring in persons who had visited the Petways.

Returning to the family of Jones, in Petersburg, who had visited young Petway, all had the disease, and Mrs. Jones died. The body of the deceased was conveyed fourteen miles into the country for interment, at the residence of her brother. Her nephew, the only member of her brother's family who had visited her during her illness, accompanied the corpse, and on the seventh day from the time he had seen his aunt, this young man broke out with erysipelas. Fourteen cases in all occurred in this family and neighborhood, in every case the period of incubation being about seven days. The next case which occurred in Petersburg was among a better class, and in the person of a Mr. V——, a merchant of that place. The attack was a severe and troublesome one, and two nurses who attended him had the disease. In addition to these, two other persons, those who were most frequently in the sick room were attacked, besides Dr. Peebles himself. He suffered severely with symptoms of a poisoned wound created by dressing the patient's face when there was a slight abrasion upon one of his fingers. While in the room with this patient Dr. P. received a hasty summons to a female in labor. The lady was in the hands of a female accoucheur, and the Dr. merely bled the patient and withdrew, soon after which she had a safe and easy delivery. On the morning of the second

day after this occurrence, the lady was seized with a severe rigor, and perished on the fourth day of her attack with puerperal peritonitis. This melancholy case had for its sequel facts of still further interest. The mother-in-law of the deceased and a young lady, a resident of the house, fell ill on the day of her burial. Upon these two had fallen the burden of constantly nursing the unfortunate lady, and both of these cases proved to be erysipelas. Nor did it stop with them, for two other young ladies, attendants in their sick room, and also inmates of the same house, long before their convalescence became affected with the same disease.

The next case of erysipelas occurred in a very different quarter of the town, but in accordance with its previous character, its appearance there could be fairly traced to Mrs. P.'s residence. It occurred in the person of a lady who had visited her during her illness, and who had taken her child in charge after her death. As usual, her husband, the other members of her family, and those persons besides who were most frequently in the sick room, had erysipelas. Her mother and sister, living apart and in different quarters of the town, carried the disease to their respective homes, where it ran through both their families.

"Setting aside entirely the question of their dependence upon each other," says Dr. Peebles, "the reader must be struck with the manner in which the cases we have detailed up to this time progressed, the one succeeding the other in regular gradation. Fully six weeks had elapsed after the breaking out of Mr. V.'s case, during which erysipelas had only advanced thus far on its course. This, therefore, it must be understood, was the manner it progressed. It is true, many simultaneous cases afterwards occurred, but never till the disease had made various lodgments in different quarters." And I may add, that in the whole range of medical literature, I know of no narration which stamps upon disease the seal of contagion more forcibly and indelibly than this.

The evidence was very strongly in favor of the contagious nature of the disease during its prevalence in this vicinity. The first case was in the person of a gentleman, who had an attack of the characteristic angina. An old lady visiting at

his house, returned home, and died in a few days of erysipelas. Four other cases occurred in the same family, three of the anginose character, and the other a fatal pleuritis, to which I have before referred. A young lady, a near neighbor of this family, who was frequently in the sick room of the old lady, was soon seized with the premonitory symptoms, and broke out with cutaneous erysipelas of the face and scalp, terminating eventually in inflammation of the cerebral meninges and effusion upon the brain.

An old gentleman, in another part of the town, who had had no connection with the other cases, died of erysipelas of the arm and face, and three of his children contracted the disease, all residing in the same house.

Two ladies from a healthy district, came some distance to watch with an acquaintance suffering from erysipelas of the face; they returned home after remaining but about twelve hours, and upon the third day after, were both seized with the usual symptoms of the epidemic. It would be useless to enumerate all the circumstances of this character; the evidence in favor of contagion was certainly startling, and popular opinion became fixed in that direction. One other striking instance, which occurred a few miles west of Danbury, in which quarter our epidemic receded, is, perhaps, worthy of record. A gentleman who labored under an extensive erysipelas of one thigh, was attended by a physician who resided some seven or eight miles distant, in a locality where the disease had not prevailed. This gentleman died, and the physician above mentioned was soon seized with the characteristic anginose inflammation, which progressively extended to the lungs, producing the peculiar form of pneumonia heretofore described, and rapidly terminating in death. Two other members of this physician's family were seized with the disease, which here again displayed itself in the form of cutaneous erysipelas.

It is the opinion of all those who have had intimate relations with this disease, that the poison is conveyed to puerperal females by the hand and clothes of the practitioner. Many facts are related which certainly tend to give strength to this opinion. During the epidemic in this town, however,

some circumstances connected with the course pursued by myself and my uncle, Dr. E. P. Bennett, have a peculiarly opposite bearing. Conceiving that all precautions which I could take, engaged as I was, day and night, in constant attendance upon those sick with the epidemic disease in all its forms, would be wholly unavailing, I went freely and unhesitatingly from the bedside of a patient laboring under cutaneous erysipelas, to that of the lying-in woman. During the whole period of the prevalence of the disease, I lost but three females in this state, the number of accouchements falling to my hands being upwards of 40. On the other hand, my uncle took the utmost precaution, not only to wash his person thoroughly, but also to change his apparel, before visiting a lying-in woman. The disease followed him like a spectre from house to house, and in a short time he had lost ten females in the puerperal condition. Being called again to a lady in labor, he stripped himself from head to foot, washed himself thoroughly with soap and water, changed his entire apparel to that which he had never worn, and attended his patient. In 24 hours after delivery she was seized with the disease, and in a few days died. In despair of accomplishing any thing by such precautionary measures, he abandoned them entirely, went from the bedside of this same patient while dying of erysipelatous peritonitis, and delivered two other females in rapid succession. Both of these did well, and from that period not another case occurred in his practice.

It is worthy of remark in connection with this narration, that this gentleman himself had an attack of erysipelas of the face during the prevalence of the epidemic, and that it was previous to, and immediately succeeding this attack, that nearly all of his cases of peritonitis took place. It will be remembered also that the case mentioned by Dr. Peebles occurred while he was indisposed from a similar cause. Is it not possible that individuals may imbibe and evolve from their persons, the poison, the morbific cause of an infectious malady, even before they feel its effects upon themselves, or when it is incapable of exerting upon them its specific action? This is a question which I believe deserves an attentive consideration, and its hypothetical affirmation is in my opinion as

rational as the supposition that the poison merely adheres to the cuticle or to the garments of the person exposed to it.

Pathology.—No disease presents a greater variety of local lesions, and at the same time a more uniform train of general symptoms than that which I have attempted to describe in the foregoing pages. In one case, we have a simple angina, preceded and accompanied by more or less constitutional disturbance; in another the angina is complicated with erysipelas of the face; in a third the previous local difficulties may be still further complicated with diffuse cellular inflammation of a limb, with a meningitis, with a pleuritis, &c. So various are these lesions, that some writers have asserted that every tissue of the body is liable to be attacked. The multiform grouping of the different local inflammations in particular cases, proves most conclusively the identity of their nature, as well as the unity of their cause. In all epidemics of erysipelatous fever, numerous cases are presented in which various groups of topical inflammations are manifest. So frequent is a succession and combination of structural lesions in the same case, that it is unsafe to make a favorable prognosis, except in the mildest forms of the disease.

I have some years since intimated the view which I entertain, explanatory of this great diversity of local lesion—to wit, *that the areolar tissue is the primary seat of every true erysipelatous inflammation*, whether occurring in the more simple or complex structures; that an erysipelatous inflammation of the dermoid system is identical in its anatomical elements with the same disease in the subcutaneous cellular membrane; that whenever the cerebral meninges, the pleura, the peritoneum, or the viscera are involved, it is still the areolar component. In order to illustrate this view it may be well to advert briefly to the varieties and general diffusion of this tissue.

The areolar membrane is the most widely diffused of any of the tissues of the body, forming not only the envelope of all the organs, but serving also as the cement of their various parts, and filling up their interstices. This tissue, so widely diffused, is at the same time a continuous tissue, and its continuity is scarcely interrupted, being subject only to the circumstances of greater or less density according to the location

which it occupies, or the office which it subserves. The subcutaneous areolar tissue is of loose texture, capable of great distention in various pathological conditions, while that which forms the envelope of the muscular bundles, is condensed and possessed of a much greater degree of firmness. The membranes termed serous are acknowledged to be but a mere modification, a condensed form of areolar tissue. The fascias, the peritoneum, the pleura, the cerebral and rachidian meninges, are a series of envelopes composed of the same anatomical elements. In a healthy state they all secrete a fluid similar in physical properties and chemical composition.

The hypothesis that this tissue is the primary anatomical seat of the local inflammations developed in the course of the disease termed epidemic erysipelas, or erysipelatous fever, readily accounts for the great topical diversity of these inflammations. Conceive that it is the areolar tissue for which the poison producing erysipelas has an elective affinity, and you are led at once to conceive also every location for its morbid products. The sub-mucous tissues of the throat may form the point of departure for erysipelatous angina, and this idea receives confirmation from the appearance of the fauces in certain cases in which the parts appear tumefied, pale and semi-transparent, the evident result of a serous effusion from the areolar tissue, and precisely similar to external œdematous erysipelas. The face is peculiarly liable to erysipelatous inflammation, and here the abundance of the cellular membrane is remarkable. In short, every portion of the body in which this tissue exists, is liable to be attacked by the disease. The skin and mucous membranes, into the composition of which the areolar structure enters largely, the serous membranes, the fascias, &c. &c., are alike subject to its invasion. Diffusion is a peculiar characteristic of erysipelatous inflammation, and the continuity of the cellular membrane is eminently adapted to this character.

It is contrary to analogy to suppose that erysipelas attacks indiscriminately all the elementary tissues of the body. Specific inflammations manifest strong affinities for particular structures, and erysipelas certainly discovers a marked preference for those parts of the body in which the areolar tissue

abounds. The face is pre-eminently the most frequent seat of the disease, and from hence it many times spreads over the entire dermoid system, exhibiting the most striking marks of propagation by continuity of tissue, the inflammation declining in parts contiguous to the point of departure long before the most distant have become involved. Is any other tissue so well adapted as the areolar, to this progressive lesion? The dissection of a case of phlegmonous erysipelas recorded by Gendrin in his *Histoire Anatomique des Inflammations*, admirably illustrates in some points the extension and adherence of this inflammation to the minutest distribution of the areolar element. He says, "Some arterioles and nervous filets traversed the purulent deposit. The laminous tissue which surrounded the former (arterioles) was dense, red, friable; it was resolved into a soft pulp in contact with the pus, and then gradually approximated the natural state, which it preserved immediately about the vascular canal. The nervous filets appeared to us healthy; notwithstanding, they were reddish, and we thought that *the cellular tissue which enters into their composition, was inflamed; at least it appeared so under the lens; but the nervous tissue properly so called, appeared to us in a state of integrity.*"

The connection between erysipelas and a very fatal form of puerperal peritonitis, is positively established by the concurrent testimony of numerous writers not only in this country but in Europe. The hypothesis which I have advanced appears to afford a ready explanation of this latter phenomenon, the most important connected with the whole subject. The peritoneum being almost entirely a membrane of condensed areolar tissue, and having a less compact substratum of the same anatomical element, is placed by the process of parturition in a state eminently capable of taking on diseased action, and is the first to suffer in the lying-in woman who becomes infected with the poison of erysipelas. The epidemic in this town gave a most conclusive proof of the identity of this form of puerperal fever and erysipelas. Out of thirteen infants born of mothers who succumbed to puerperal peritonitis no less than five died, at periods varying from three to eight days after birth, with well marked cutaneous

erysipelas, and one after a longer period, of extensive inflammation and disorganization of the subcutaneous cellular tissue, *while not a single infant born of a healthy mother, contracted the disease.* Is it possible to evade the conclusion that the poison which infected the mother, was identical with that which destroyed the child?

I cannot but refer here to some remarks upon this subject, by Dr. Meigs, in his letters on *Females and their diseases.* In the forty-first letter, he mentions the startling fact, that in the practice of Dr. Rutter fifteen children died of erysipelas out of ninety-five born of mothers who suffered from puerperal fever, and yet without an effort to explain this striking coincidence, he proceeds in a subsequent part of the letter, to assert that "there is not and cannot be any identity between erysipelas, a dermal disease, and the deadly inflammation of the peritoneum observed in lying-in women." If, however, we adopt the hypothesis that erysipelas of the skin consists in a specific inflammation of its areolar woof, instead of that which maintains that "it is always an *angeio-leucite,*" it would not be "absolute nonsense" to say that a lying-in woman "has an erysipelas of the serous lining of her belly." The coincidence of erysipelas of the dermis and post-puerperal inflammation of the peritoneum is incontestable, and the pathological views which I have advanced constitute them a direct relation of cause and effect.

The uniformity in the general symptoms of erysipelatous fever, has been a subject of remark for all who have witnessed it, and it is an incontrovertible fact, that the febrile phenomena in this affection are not modified to any extent by the varieties of local lesion which may occur during its progress. It matters not whether it be an external erysipelas, or subcutaneous cellular inflammation, a pharyngitis, an arachnitis, a peritonitis (except the puerperal), they all occur *under the direction* of the peculiar genius of the disease, and the characters of the febrile movement are unchanged by them. While the most appreciable differences between one case and another of similar intensity, are the local lesions developed, and while these may be widely divergent, the general phenomena receive from them no special stamp, but impress upon them certain characteristics not to be mistaken.

In the case of puerperal peritonitis, there is a special modification of the symptoms, and a determination of locality, dependent upon the peculiar condition of the organism during the reproductive process; so that while the disease still adheres to its favorite tissue, it is directed to the peritoneum by a secondary influence, which also changes in a measure the general aspect of the symptoms.

I believe that every impartial observer, who views the facts set forth in the foregoing pages, through a medium unobscured by prejudice, will be struck with the plausibility of the hypothesis offered in explanation of these facts, and I leave it for close anatomical and microscopic investigations hereafter to corroborate or invalidate this view.

Treatment.—The treatment of this disease has been almost as varied as the number of practitioners who have treated it. According to the account of Dr. Jewett in reference to the disease as it prevailed in Caledonia Co., Vt., the most successful mode of treatment in those cases which commenced or were soon followed by chills, was to place the patient in bed, give warm mild drinks, such as sage, balm, hemlock, spearmint, &c., as fancy or necessity dictated; apply heat externally, give the patient acetate of ammonia, from ʒ ij. to ʒ iij. every three hours until free perspiration ensued. He uniformly applied counter-irritants, but seldom so as to produce vesication. To aid the perspiration and procure quiet, he early and repeatedly gave Dover's powder, applying at the same time sinapisms to various parts, when pain, numbness or cold supervened. "In some few cases," says Dr. Jewett, "emetics were used early in the disease, and occasionally a cathartic at first, but the more general and successful practice was not to give an emetic or cathartic until the expiration of from twelve to twenty-four hours, and then move the bowels gently with oleum ricini. Bleeding has been seldom practised by myself or either of the physicians in this county who have had much experience in the disease; and though there has been some discrepancy of opinion among medical men in this section, I speak advisedly when I say that the physicians who have done altogether the greatest share of business, have seldom practised bleeding, or scarcely ever

commenced treatment by an emetic or cathartic." This view of the treatment was entertained by other practitioners in the same section; Drs. Hall and Dexter, however, maintain that where the anginose affection is accompanied early by severe constitutional symptoms, "*bleeding*, prompt and efficient bleeding is the only remedy to be depended upon, and in their hands the only one which succeeded." They add, "that a delay of a few hours in such a condition of affairs is fatal. *Full bleeding*, reducing the action of the heart and arteries, followed by either an emetic or cathartic, has rarely failed in our hands of arresting the disease when applied in season. And in not a few cases where there has been but little affection of this membrane, but much efflorescence upon the skin, has one bleeding arrested the disease and the patient become convalescent in a few days." The authority of Dr. Sutton, of Indiana, corresponds in a measure with that above quoted. "If there has been any remedy in the course of treatment," says this physician, "that has caused the disease to be less fatal in this neighborhood, than it has in other parts of the country over which it passed, it has been the prompt exhibition of an emetic after venesection, making a decided impression upon the disease at its very onset, without prostrating the system." He adds, however, in another part of his paper, that "*a large blood-letting from a small orifice*, seldom failed to produce injurious effects, neither did patients bear a second venesection well, particularly in the pneumonia."

Dr. Shipman's estimate of the efficacy of blood-letting, is not materially different from that of Dr. Sutton. He contends that the venesection should be *early*, as soon as reaction is fully established. "If this golden opportunity is lost, and the tendency to collapse is apparent," says Dr. Shipman, "or if the fluids have become greatly deteriorated, and gangrene is on the point of taking place, then bleeding should never be thought of. Those cases tolerate venesection best, where there is violent pain in the occipital region, a full bounding pulse, and early cerebral disturbance, or where the pleura or peritoneum is implicated." He thinks, however, the use of blood-letting should be restricted, and says, that "in those cases where deep seated abscesses form, I do not think that venesection

practised at any period is of service, but will generally be detrimental in wasting the vital energies, without mitigating or controlling the subsequent suppuration. When the tonsils or the mucous membrane of the throat alone is affected, or there is simply the eruption on the surface, bleeding I deem not indicated, and may do harm, and in puerperal peritonitis, although it has been practised to the greatest extent by every practitioner who has had occasion to treat it, yet the success attending it does not speak very highly in its favor."

Dr. Peebles, speaking in reference to treatment, remarks that bleeding was only called for in a small minority of cases, and that its requirement in any case, for two obvious reasons, was always unfortunate. In the first place it implied the dangerous and malignant character of the attack; in the next, while it removed immediate danger, its ultimate result might be disadvantageous, since the system, weakened by its employment, had still to bear the course of the disease and eliminate the morbid poison.

It must be evident to every one who has had experience in the treatment of epidemic diseases, that no rule of practice can be established applicable to all cases. The practitioner must be governed by the age, constitution and habits of his patient, together with the circumstances attending the attack. My own experience has nothing to add in favor of blood-letting, for even in the cases of puerperal peritonitis, where it would seem above all to be indicated, success has not followed its employment nor even arrested the progress of the disease. I have uniformly conducted my treatment upon general principles, and according to the circumstances of the case. In those of an anginose character, unaccompanied by any other local inflammations, my success was perfect and unattended with the loss of a single patient. The course of medication consisted in the first place of an emetico-cathartic, formed by combining the ordinary antimonial solution, with a strong decoction of eupatorium perfoliatum, the latter to be drank freely during the intervals of taking the emetic solution. This method of giving these medicines, scarcely failed in a single instance, of producing an emetico-cathartic effect, and to afford at least temporary relief to the patient. Vesications upon the

neck with emp. cantharidis, was the remedy next in order, and many times acted like a charm in relieving the excessive soreness of the throat. Frequently I applied also a strong solution of nitrate of silver directly to the inflamed mucous surfaces. This constituted the principal part of the treatment in a majority of the anginose cases; but in some in which there was a continuance of the fever after the abatement of the local difficulty, I administered freely an infusion of bark with evident advantage. In the more malignant cases accompanied with the erysipelatous eruption and diffuse cellular inflammation, I also mainly depended upon bark, with an infusion of serpentaria and mild laxatives during the first stages, and afterwards upon the more powerful stimulants, such as ammonia, wine, brandy, &c. In short, although frequently perturbative at the onset, my treatment was in the main decidedly tonic and stimulating; and it was only in the cases of serous inflammation that I departed from this plan. In these I used calomel and opium largely, but without success, except in one case of puerperal peritonitis. In this I have no doubt that the free use of the mercurial combined with opium and digitalis saved my patient. With reference to external applications to the erysipelatous efflorescence, I at first made use of a favorite remedy, namely, nitrate of silver in strong solution; but perceiving no benefit whatever, I abandoned all external remedies with the exception of cooling lotions to allay the heat and smarting of the inflamed parts. In a case of glandular engorgement of the neck, which I succeeded in resolving, I administered bark internally, applied the vesicatory to the tumor, and afterwards rubbed with ointment of iodide of potassium.

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ART. II.—*Injury of the Testicle, followed by peculiar Symptoms of Cerebro-Spinal Irritation and Crural Phlebitis; with Remarks.* By ISAAC MORRELL, M. D., Borodino, N. Y.

THE result of injury to the testicles may be slight or severe. When slight, there are ordinarily sickness, vomiting, and cold perspiration, with a recovery more or less speedy, leaving only slight tenderness of the organ. Curling, in his admirable work on the *Diseases of the Testis*, remarks: "The consequences of contusion of the testis are soon felt, and are often severe; the immediate effects of the injury resembling a good deal the symptoms produced by an injury of the viscera of the abdomen, owing to the connection of its nerves with those of the organs in the abdominal cavity. The patient instantly experiences acute pain, which extends up to the loins and forces him to bend his body forwards for relief, and he is seized with a sickening sensation, which is often accompanied with syncope, vomiting and cold perspirations. But these symptoms are transient, and in many instances after recovery from the first effects of the injury, no further ill consequences are experienced; the effused blood is removed, and the testis, after remaining tender for a few days, is gradually restored to its former healthy state."

When, however, the injury results in inflammation, the severe symptoms continue. Among the frequent causes of acute orchitis, Sir Astley Cooper mentions a blow upon the testis, and adds: "If it be severe, it produces vomiting upon the instant, almost upon the hand which inflicted the injury, and is immediately succeeded by a violent attack of inflammation." This inflamation is characterized by swelling of the testicle and exudation into the cavity of the tunica vaginalis; the scrotum is enlarged, reddened, and very painful to the touch, with fever, pain in the loins, sickness of the stomach, &c. The usual termination of such attacks is in resolution, suppuration rarely occurs, but when pus does form, it is attended with the usual symptoms, as throbbing pains, chills, &c.

The following case of injury of the testicle, presents an assemblage of symptoms so unique, that I deem it worthy of publication:

CASE.—The patient was an Irishman, nineteen years of age, of good constitution, and employed on a farm as a common laborer. On the evening of December 1st, he received a kick in the scrotum from another young man of about the same age, with the toe of a thick boot. He immediately experienced a sensation of faintness, but continued about his work, and retired that night to all appearances as well as usual, having made no complaint. On the following day, which, as usual at that season of the year, was wet and cold, he ploughed the first half, and in the afternoon travelled about fifteen miles on foot and on horseback. On the third day he again ploughed during the forenoon, but in the afternoon was obliged to quit his work, and inform his employer of his condition; I was called to see him on the 3d inst., forty-four hours subsequent to the injury.

I found him with a pale countenance, slow pulse, scarcely fifty beats per minute; scrotum swollen to nearly the size of the two fists, of a dark color; the right testicle apparently uninjured, while the left was exquisitely tender, and intolerant of the slightest pressure. Applied warm lead water fomentations to the scrotum, and gave pulv. camphor with anodynes. 4*th*. General symptoms about the same as at last visit; slight increase in the swelling of the testicle, treatment continued with the addition of a saline cathartic. 5*th*. Found him with some fever, face flushed, pulse 80 per minute, quick, bowels not moved; left testicle more swollen, painful, spermatic cord also tender on pressure.

6*th*, 8 A. M. Quite comfortable; bowels moved soon after my visit yesterday, and again this morning. I learned at this visit that the patient, very inconsiderately, and contrary to express orders, retired to the privy whenever his bowels moved, remaining the first time nearly half an hour. About 7 o'clock, P. M., I was called in haste, the messenger stating that "they could not wake him." He had been suddenly seized with pain in the præcordial region, followed with a few minutes of ecstatic delirium, after which his speech failed him; his jaws became set, lips compressed, angles of mouth drawn backward and rather upward, eyes rolled upward and inward, so as nearly to conceal the iris when the lids were

forcibly raised, fingers slightly flexed, legs extended, abdominal muscles tense and hard, arms flexed at right angles, chest firmly fixed, breathing slow, diaphragmatic and abdominal; muscular system generally in a state of tonic spasm, so that in raising his head the whole body would be elevated towards the erect position. I at once resorted to venesection, taking about 16 oz. of blood, punctured the scrotum and the tunic of the left testicle, which greatly relieved the spasm and allowed him to swallow, when I gave him full doses of opium and camphor, applied narrow blisters along the spine, and enveloped the scrotum in a tobacco poultice.

Dr. Kneeland saw him with me at this visit, and subsequently during the progress of the case.

Dec. 7th, 8 A. M. Muscles not as rigid as last evening, but he is still incapable of speaking; the tobacco poultice produced some faintness and nausea; the tetanic spasm less marked. Made hot applications to the extremities, and gave an enema of turpentine, which moved the bowels slightly. He remained in this condition during the day, but a little before my evening visit, he suddenly cried out, "I am going," the first words he had spoken in twenty-four hours, and was immediately seized with violent tetanic spasms, attended with loss of sense, motion and deglutition. The turpentine enema was repeated, and brought away copious and offensive stools, with such relief to the spasms, that he became perfectly sensible and able to swallow with ease.

Dec. 8th. Found patient in the morning quite comfortable; rested well during the night, pulse 60. Renewed tobacco cataplasm, gave pulv. camphor. 4 P. M. Had a slight tetanic spasm during the day, which soon passed off, otherwise remained comfortable; testicle not very painful, still enlarged, swelling of scrotum diminishing.

Dec. 9th. Rested well during the night, pulse 50, soft; ordered castor oil, as the bowels had not moved within the last two days; other treatment continued. In the afternoon he appeared quite stupid, but disposed to fight when disturbed. As his bowels had not moved, the turpentine enema was again given, which soon operated and relieved him effectually of his pugnacious propensities. *Dec. 10th.* Rested well

during the night, appears cheerful, appetite improving, tongue, which has throughout been coated with a thick white fur, is now cleaning, pulse 60, stronger. Appeared still better in the afternoon, laughingly asked me why I called so often; not much tenderness of testicle, scrotum slightly swelled; spermatic cord seems to be the only seat of marked tenderness. *Dec.* 11*th.* Continues to improve, local and general treatment continued. *Dec.* 12*th.* Still better, but little soreness of testicle and cord, wishes to get up and walk about.

Dec. 13*th.* The condition of my patient continued as favorable as could be desired until late in the afternoon of yesterday, when he began to complain of pain in the head, and of slight pain in the right hip. Soon after this he fell into the same delirious state as before, praying and singing, apparently unconscious of his actions. This condition lasted about two hours, when he became rational, and rested quite well during the night, though he continued to complain by signs (for he could not or would not speak) of pain in his hip and leg. This morning the right leg began to swell, and at my visit I found him complaining bitterly of pain, and constantly pointing to the calf of the leg; the crural vein at the upper part of the thigh was hard and swollen; the slightest touch made him scream; pulse 75, small; skin cool; tongue furred, but moist. Ordered full doses of opium, with blue mass, hot tobacco fomentations to the painful part of the leg about the calf, blister to the inner and upper part of the thigh over the inflamed vein. The anodynes relieved the pain so that he fell asleep, and on waking he could again speak. On visiting him late in the evening, I found his general symptoms about the same; he had slept most of the time. The ankle and calf of the affected leg were swollen, tense, shining; foot of a dark purple color.

Dec. 14*th.* Found him comfortable in the morning, quite free from pain; swelling of leg diminished; thigh more swollen and tender; complains of pain in the hip; foot not as purple as last evening; pulse 75; tongue becoming brown in the centre. Ordered castor oil, to be followed by an enema if necessary to its operation; treatment general and local continued. *Dec.* 15*th.* Symptoms and condition unchanged, except that upper part of thigh is more tender; pulse 80, soft; swelling about ankle not as hard as it has been; blisters on

thigh discharging freely. Applied another blister just below Poupart's ligament. *Dec.* 16*th.* Passed a good night; sweat freely; blister drew well; leg less painful, red, and tender to touch over the tibia; ankle and thigh of right leg several inches larger in circumference than the left. Made warm applications to whole limb, and gave quinine and Dover's powder internally, with small quantities of brandy. *Dec.* 17*th.* Improving slowly; outside of thigh and hip free from swelling; but on the inside the skin is tense with swelling; pulse 75, and soft. Omit fomentations, and apply blister in the course of the crural vein from knee to groin; continue brandy, opium, and quinine.

Dec. 18*th.* Not as well as at my last visit; soon after which he began to complain of pain in the *left* leg and hip, which are considerably swollen, and excessively tender, with intense pain in the calf; veins of inside of thigh hard and painful; pulse 80. Continue anodynes and mass hydrarg.; apply blisters along inside of left thigh, and warm fomentations to the whole limb. In the evening he appeared worse; perspiration profuse; pulse feeble. Mercurial ointment was directed to be rubbed over the groin and thigh, and ext. hyoscyamus to the painful parts of the leg.

Dec. 19*th.* Not suffering as much from pain as yesterday; passed night comfortably; left leg continues to swell; pulse 70, and small; tongue moist, slightly furred. In the evening he complained of great pain in both legs, also in the back and loins; perspiration profuse. Continue treatment with tonics, anodynes, and blue pill. *Dec.* 20*th.* Symptoms as at last record, except that the scrotum has begun to swell again; swelling of left leg steadily increasing.

During the three following days the swelling of the left leg continued to increase until it attained nearly the size of the right, which had a circumference around the thigh of seven or eight inches more than natural. The pain most of the time was severe and seated in the calf. *Dec.* 24*th.* I found his gums touched, though the blue mass had been discontinued, and all the symptoms improving; the swelling of the legs was subsiding, this having commenced in the night; countenance cheerful; bowels quite regular; tongue cleaning. On the evening of the 26th he again fell into an unconscious condition; neck

and limbs stiff; when flexed by gentle efforts, they remained fixed in the same position as they were left. He continued in this state during the night, but in the morning I was able to rouse him sufficiently to make him speak and take drinks; the pulse while he was sleeping numbered 55; when roused up it increased to 65. From this date his amendment was decided; the swelling of the right leg subsided rapidly; that of the left more slowly, the pain continuing in the thigh and left iliac region.

On the 30th and 31st of December he again had distressing paroxysms of rigidity of the limbs, with real or affected inability to swallow or speak, and entire unconsciousness. He complained of great pain in the head on the following day; pulse 52. Mustard was applied to the spine and anodynes administered; after these a blister was applied to the nape of the neck, which drew thoroughly and relieved his head of all its painful symptoms. From this time no new symptom occurred, and in two or three days he was able to walk out, and about the middle of January returned to his usual labor.

On recent examination of the patient, the left testicle is found to be considerably smaller than the right, softer, and somewhat more elongated; otherwise there were no traces of the disease apparent. His general health is good.

Remarks.—The particular features of the foregoing case worthy of notice are, the unusual symptoms referable to the cerebro-spinal system, and the subsequent attack of crural phlebitis.

It is not difficult to account for the occurrence of tetanic spasms simply, so frequently do they follow traumatic lesions, although, so far as our knowledge extends, they are not so common, after injury of the testicle, as the structure and sympathetic relations of this organ would lead us to expect. For when acute inflammation attacks the glandular structure of the testicle, the consequent swelling is restrained by the firm, fibrous, inelastic tunica albuginea; thus giving rise to the conditions on which the development of tetanus usually depends. That the tetanic symptoms in this case arose from the swelling of the substance of the testicle, and the consequent tension of its fibrous tunic, is very evident from the relief to these symptoms, which followed incision of this covering.

It is not so easy, however, to explain the symptoms pertaining to the head. Sympathy of the brain with irritation and inflammation of the testicle has been observed, and is noticed by some authors. South in his notes to Chelius (Vol. 1, p. 201), says: "Sometimes, though not very frequently (for I have never observed it), inflammation of the testicle, consequent on gonorrhœa, is immediately preceded by great irritation of the brain, which subsides on, or soon after, the appearance of the swelling." He adds, by way of illustration, the following case: "A. B., aged 19 years, of strumous constitution, had gonorrhœa for six weeks; and after the usual treatment of purgatives, nitrous ether, and copaiba, the discharge had nearly ceased for two or three days, when he was attacked with violent febrile excitement, very quick pulse, and delirium, which continued forty-eight hours, towards the latter part of which the testicle began to swell, and as the size increased, the head symptoms diminished and subsided. Leeches and other suitable treatment having been employed, the swelling of the testicle declined, and the gonorrhœa returned, but gradually diminished, till there was not more than six or eight drops of discharge a day. He then left the house, and took a walk, but soon had a recurrence of the febrile attack and head symptoms, which, however, went off again as the testicle again swelled, and that also subsided on the reappearance of the discharge from the urethra." In a subsequent note the same author relates a case of *Metastasis of gonorrhœa and inflamed testicle to the brain*, attended with spasms of the muscles of the face.

The most interesting feature, however, referable to the sympathy of the brain, in the present case, relates to the *morale* of the patient. In addition to the tetanic symptoms, there was a dogged wilfulness, a disposition to strike his attendants, such as to make them cautious in approaching him; a wild, ecstatic delirium at the outset of a paroxysm, and finally many decidedly hysterical symptoms. It may be well to state that his natural disposition is mild, and not unamiable. In the *Edin. Med. and Surg. Jour.*, Vol. 46, Mr. Cockburn reports a *Case of Irritation of the Cerebro-Spinal Axis, causing Mental Derangement, Trismus, and Palsy*, which, though unlike the present case in many respects, is interesting from the remarks

which Dr. Craigie has appended to it, on the subject of irritation of the cerebro-spinal axis. The patient was a hysterical female, who had been laboring under symptoms of an affection of the spine for two years. She was finally seized with a convulsive affection, ending in trismus; soon after, "she became extremely violent, and resented every opposition to her wishes, by striking and throwing whatever came in her way at those about her. She was treated with purgatives, and blisters to the scalp and spine, and at length recovered.

In commenting upon this case, Dr. Craigie refers the seat of irritation to the meninges or investments of the cerebro-spinal system, and observes, "that by the term irritation, as applied to the parts of the nervous system, is meant a state induced by *stimuli*, or irritants, mechanical, chemical, or physiological, in which the natural properties are unduly and unnaturally roused, yet without giving rise to the process of inflammation, or the formation of morbid products, and consequently without destroying the compressibility, sensibility, and conducting and regulating powers of the nervous system. These powers are suspended and perverted in consequence of the nervous matter being unduly and perhaps irregularly irritated or excited; and if the irritation were either so powerful or so long continued as to induce inflammation, it cannot be doubted that morbid products would be formed, or that the organization of the affected part of the nervous system would be so much destroyed as to be afterwards incapable of performing its proper function." He also appends to his remarks the case of a young man, aged 19, who was found "in a state of insensibility to external impressions, and presenting occasional attacks of convulsive motions of the upper extremities, with rigidity of those of the body so complete, that he was carried by the head and heels without flexion of the trunk." He had spastic rigidity of the muscles of the trunk and lower extremities, drawing them also backwards, and rendering the whole body as rigid as a board. The calves of the legs were drawn into hard knots; the jaw was partially fixed, and the tongue was completely paralyzed. During the first night he remained quite unconscious of what was going on around him, took neither food nor drink, and never spoke the greater part of the night, but occasionally had

violent spasms. He was treated by general and local bleedings, purgatives, and blisters to the occipito-cervical region, and at the end of a week was convalescent. The patient was a healthy individual, and knew no cause of the attack. Dr. Craigie adds, that this case "presented all the characters of some violent irritation of the nervous centres; and unless this had been removed by the prompt employment of efficient remedies, it must have gone on to fatal effusion, or terminated in chronic *meningitis*, with insanity and palsy." The loss of voice was considered a curious and important symptom, and supposed to indicate an affection of the pneumogastric and glosso-pharyngeal nerves, "and perhaps the greatest degree of irritation, amounting almost to congestion, was seated in the membranes covering these nerves." According to these views of the pathology of cerebro-spinal irritation, the seat of irritation in the present case was in the meninges of the brain and spinal system, and to this cause we must refer the spasmodic affection, as well as the peculiar state of mind.

The supervention of phlebitis, during what was thought to be the period of convalescence, was an unexpected and well-nigh fatal complication. It is difficult to trace its origin in the progress of the case, and must be referred on general principles, to the extension of the inflammation of the veins or lymphatics of the cord to the crural vessels. The return of the swelling of the scrotum with the inflammation of the veins showed the sympathy which existed pathologically between them; and it would not be improper to trace in this coincidence a causative relation.

Dr. Robert Lee, in his very elaborate paper *On Inflammation of the Veins of the Uterus* (*Med. Chir. Trans.*, Vol. 15), says: "It is evident, therefore, that inflammation may be excited in the great veins of the pelvis, and in both sexes, by diseases of the neighboring organs, and that this may be propagated to the principal veins of the lower extremities."

There is one feature in the treatment of this case to which we may barely allude, because we believe it to be unique, and that is the incision of the fibrous tunic of the testicle, to relieve the tetanic convulsions. The mitigation of these painful symptoms, which followed the operation, sufficiently attests its importance in similar cases.

ART. III.—*Remarks on Dysentery;* read before the Rockland Co. Medical Society. By MOSES C. HASBROUCK, M. D., President of the Society.

AMONGST the diseases which attack the inhabitants of Rockland Co., there is not one probably which prevails oftener as an epidemic than dysentery, nor one that causes more deaths. So far as our observation extends, it is seldom or never accompanied with typhoid prostration, or that depraved state of the system which gives to diseases the character called by the olden writers asthenia. For the most part, it occurs in the young and middle-aged, and in constitutions generally undepraved by the effects of debauchery or poverty. It is true that it prevails generally in the heat of summer, or the beginning of autumn, when the constitution is more relaxed than in colder seasons; but not at all under the depressing influences of the close confinement and deficient ventilation of city life. Examination after death shows inflammatory injection of the vessels of the mucous coat of the colon, rectum, and sometimes the ileum, with exudations of lymph, thickening of tissue, and ulcerations; so that there can be no mistake in its pathology. It seldom takes life before the ninth day, and often not until the end of the second or third week, giving time, therefore, for treatment. It generally attacks suddenly, or without any lengthened stage of premonition, leading to depravity of the fluids. There is nothing in its character, or its course, to separate it from the ordinary inflammations of the county. The why should it prove more fatal, or be less amenable to treatment than other inflammatory affections? If it have been so, I believe that it has been owing to nothing more fatal in its character, but to a modification of our treatment, arising from the fact, that we are apt to blend with our views of its nature, the ideas of inflammation and relaxation or debility, and hence we do not pursue with sufficient promptitude and vigor the ordinary means for combating inflammation.

We have in our experience in this county observed three slightly differing forms of the disease. The first has been decidedly sthenic in its character, with a full, sometimes strong pulse, heat of skin, &c. In this form we have bled as freely

violent spasms. He was treated by general and local bleedings, purgatives, and blisters to the occipito-cervical region, and at the end of a week was convalescent. The patient was a healthy individual, and knew no cause of the attack. Dr. Craigie adds, that this case "presented all the characters of some violent irritation of the nervous centres; and unless this had been removed by the prompt employment of efficient remedies, it must have gone on to fatal effusion, or terminated in chronic *meningitis*, with insanity and palsy." The loss of voice was considered a curious and important symptom, and supposed to indicate an affection of the pneumogastric and glosso-pharyngeal nerves, "and perhaps the greatest degree of irritation, amounting almost to congestion, was seated in the membranes covering these nerves." According to these views of the pathology of cerebro-spinal irritation, the seat of irritation in the present case was in the meninges of the brain and spinal system, and to this cause we must refer the spasmodic affection, as well as the peculiar state of mind.

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We have in our experience in this county observed three slightly differing forms of the disease. The first has been decidedly sthenic in its character, with a full, sometimes strong pulse, heat of skin, &c. In this form we have bled as freely

as in pleuritis, and with equally favorable results, never to our recollection having lost but one patient, and that a child; the violence of the attack throwing it almost immediately into convulsions. We have frequently followed the bleeding by large doses of calomel and opium. Under this treatment few cases have lasted longer than five days, and many have required one dose only of the calomel and opium. There is nothing in this treatment different from the ordinary treatment of pneumonia, bronchitis, hepatitis, &c., unless it be perhaps the more liberal use of opium, made necessary upon general principles to allay griping and tenesmus.

The second form has not been so decidedly sthenic in its character; often the pulse, heat of surface, &c., would vary but little from natural, whilst the loaded tongue, yellow conjunctiva, and tender hypogastrium, gave evidence of decided biliary derangement. In this form we have commenced with leeching the tender portion of the abdomen, and followed this with large doses of calomel, adding more or less opium, as indicated by the pain and frequency of the stools. It was at a time when this form of the disease prevailed extensively in the western portion of the county, that Dr. Wood, an old and highly respectable physician, now retired from practice, repeatedly told me, that calomel in large doses is as effectual, and as much of a specific in dysentery as quinine in fever and ague.

The third form has approached more nearly to what may be called the asthenic type. The attack, whether sudden, or following a diarrhœa, seldom has a stage of excitement, nor is the tongue often more than slightly coated. Its progress is sometimes gradual, and it is often not until the end of three or four days, that the patient is confined to bed. This form we have conceived (in the absence of post mortem examinations) to differ a little in its pathology from the other forms, in affecting a greater extent of the mucous membrane, extending farther into the small intestines, and not unfrequently attended with more or less mucous gastritis. Hence vomiting is more frequent, there is more prostration of the nervous energy, and more diffuse tenderness of the abdomen; and hence too, not only large doses of calomel, but small quantities have

appeared injurious. It is in this form that Hope's nitric acid mixture, preceded by a laxative, proves very effectual; a mixture with which, Dr. Mackintosh says, he has cured more cases of dysentery than with any one remedy.

But even in this form, we believe that very many cases, not all, in some seasons, perhaps not a majority, require that the treatment shall be commenced with the loss of blood. Dr. Bell, of Philadelphia, says: "In the sporadic dysentery, as I have met with it in Philadelphia, and, in earlier life, quite frequently in the lower part of the valley of the Shenandoah, in Virginia, the lancet cannot with safety, in many cases, and with advantage at any time, on the score of speedy abatement of fever and pain, be dispensed with. But in epidemic, and camp dysentery (I use this term to indicate locality rather than any specific or well-marked difference of disease), we do not by any means speak with the same confidence of this remedy." "When associated with ileitis, as in typhoid fever, or with regular typhus, we cannot, after the *very outset* of dysentery, promise ourselves much benefit from the use of the lancet. But even in cases of this kind of complication, and when he had reason to believe that ulceration existed in the intestine, Dr. Cheyne repeated venesection, and with great temporary relief; and when followed by blisters, mild aperients, and anodynes, the relief was permanent."

My principal object in this communication on dysentery has been to state the accordance of my own experience with that of Dr. Bell, and to call the attention of the society to it. Even in this third form as we have said, we feel confident that very many cases will be saved by a very early loss of blood; but in most of them, we should prefer leeching, whilst in some, the lancet should be used; for we have reason to believe, from what we have seen, that in some cases the prostration is to a great extent apparent only; the want of vascular force, and other evidences of inflammatory reaction being caused by the overwhelming effect of the disease upon the nervous system, the result of a more extended affection of the mucous surface of the small intestines. A loss of blood in these cases will relieve to a great extent the typhoid stagnancy of all the functions of the system.

Formerly the idea of retained fæcal matter in dysentery was entertained generally by the profession (and is, perhaps, too much overlooked at present), which of course led to the treatment of this disease by repeated purgation. Have we not, on this account, thoughtlessly fallen into the habit of too much purging? If we closely inquire into cases, we shall, I think, find that at the commencement of the attack, as we might naturally conclude, the irritated bowels freely discharge all their fæcal contents, and then the slimy stools commence. And if so, what is there in an inflammation of an acute character, seated in the mucous coat of the bowels, that can call for the administration of an irritating substance, which in addition to its local, stimulating qualities, increases the motion of the inflamed tissue? We all know the importance of rest in treating inflamed parts, and why does not the principle apply in dysentery? It is the motion of the bowels which causes the distressing griping and tenesmus, and to allay which, we fear, in the absence of direct depletion, opium is often used too early, and too freely. The patient, pleased with the effects of it, and the physician, flattered by the apparent relief it affords to the symptoms, repeats again and again the doses, increasing them in quantity or in frequency, to meet the increasing distress produced by a rapidly advancing inflammation.

Many is the case, but of a decidedly sthenic character, in which we have seen a full bleeding arrest all at once all griping and discharges for twelve hours or more without a particle of anodyne.

In conclusion we would say, that we verily believe, that if dysentery were always considered as an inflammation simply, without any thought of the frequent and bloody stools accompanying it, and which are its effects only, and treated accordingly, we would be better satisfied with our efforts to cure it. In genuine enteritis or inflammation of the peritoneal coat of the intestines, we pay but little attention to the constipation, considering it an effect of the inflammation, and secondary only in the treatment of it; and why should not the purging, or discharges in dysentery hold the same place in making out the indications? Why should we not use the lancet in the

one case to arrest the discharges, as we do in the other to promote them? We should, of course, always graduate the quantity of blood abstracted, by the force of the circulation, and the stamina of the constitution, and not rely upon it, to the neglect of other useful and highly necessary means.

In concluding these remarks, I wish to illustrate with cases, a form of diarrhœa, sometimes a sequel of dysentery, which, though generally very amenable to treatment, often proves intractable, because the lesion upon which it depends is not recognized. I refer to those cases in which an ulcerated condition of the rectum exists. In *Bell & Stokes' Practice*, we find these ulcerations mentioned as an occasional cause of chronic diarrhœa, and the use of a strong solution of nitrate of silver recommended.

CASE 1.—I was called on the 15th of May, 1850, to see a child about three years old, laboring under diarrhœa of a few days standing, and attended with a great deal of pain at stool. The child had taken pink root for worms, and some domestic remedies to arrest the complaint, but without any benefit. The pain at stool was represented as very severe, which led me to examine the anus. On separating the buttocks strongly, I discovered a slight excoriation of the rectum on the left side, just within the external sphincter, and not larger than the half of a five cent piece. The portion of the bowel immediately adjoining was red, and unusually moist. I prepared an ointment composed of nitrate of silver, grs. x., finely pulverized; extract of bellad., ʒj.; lard, ℥j. A little of this was directed to be applied with the finger twice a day. Three applications cured the diarrhœa, and all her difficulties ceased.

CASE 2.—On the 1st of June, 1850, I was called to see Mr. Bushe, aged 35. He was attacked during the summer before the last, with dysentery, while residing in New Orleans. The dysentery ended in diarrhœa, which has continued ever since. Last spring, a year ago, he returned to New-York City, his native place, where he consulted, and was prescribed for, by a number of physicians, and took a great variety of medicines, with no permanent benefit. Last April he

came to the country in hopes that country air might do something for him, but so far he had been disappointed. He has now from six to twelve stools a day, and "feels all the time like going to stool." The passages are very variable in quantity and appearance. He weighs about forty pounds less than his usual weight, and yet from the fact of his general health not having suffered to that extent which the duration and debilitating character of the disease would naturally lead us to expect, our attention was directed to the rectum as the probable seat of difficulty. On examination I found two ulcers on the left side, just within the verge of the anus; the adjacent parts were slightly excoriated, red, and moist. The ulcers were about the size of a three cent piece, or perhaps not quite so large, nearly circular, slightly excoriated, and their surfaces covered with a thin coating of pus. The ointment used in the former case was left with directions to apply it twice daily, and a Dover's powder with hydrarg. cum creta, to be taken at night. I called four days afterwards, and found the ulcers nearly healed, the bowels acting once or twice daily; only one powder had been taken; patient says he feels better than he has in two years previously; application of the ointment to be continued.

Called again after six days, ten days from the first application of the ointment; found the ulcers healed, but the parts still unnaturally red; the patient is constitutionally well; bowels regular, appetite good, flesh and strength returning; advised an occasional use of the ointment.

ART. IV.—*On the Treatment of Dysentery with Acetate of Lead and Balsam of Copaiba.* BY O. P. HATHEWAY, M.D. La Salle, Ill.

I PRESUME it will be admitted by all, who have kept themselves well informed in medical literature, that dysentery has been treated empirically to a greater extent than almost any other disease in the whole catalogue of ailments, Asiatic cholera not excepted. The whole list of vegetable astringents, from tannic acid, down to that containing the least astringent property, or perhaps none at all, have been lauded by our me-

dical writers and painted in their most gorgeous colors in our journals, as certain remedies for the cure of this malady. But alas! how often have they all in turn utterly failed to accomplish the end sought, or afford any relief to the poor sufferer.

The mineral astringents have passed through the same scourging with about equal success. Then comes the advocate of cathartics, and this is popular, because it is in keeping with the opinions of the masses. I remember to have read in the writings of some good old author, that in his day the first remedy that suggested itself to the mind, when a man was prostrated with disease, was a cathartic, and the next thing a pailful of fæces; it is needless to add that the same opinion is as common now as it was in the days of old Esculapius.

Nine case out of ten a more injurious course could not be pursued, than to give cathartics in dysentery. Rest and quiet are admitted to be essential in all other inflammations, and even in this as far as bodily exercise is concerned.

Then I would ask in good faith, why not let the intestines remain in a state of quietude also? No good reason can be adduced. Cathartics, it is well known, bring every muscular fibre of the intestines into action, and will any sane man deny that the peristaltic motions of the intestines do actually increase the already existing inflammation? But I have excepted one case in ten, and perhaps I should have said one in twenty, where purgatives will be admissible; these are cases in which upon examination hardened fæces are found lodged in the intestines and acting as a foreign substance. Even when this is the case we must avoid repeating the cathartic, for it cannot be considered otherwise than injurious, except in the most extreme cases. As already remarked, active catharsis being the first remedy suggested to the minds of the great mass of people in the event of sickness, it happens to the physician when called, to find his patient already purged, and if any part of the alimentary canal had previously contained any irritating substance, it has now been removed, and the plain indication is to restore the inflamed surface.

This can be effected on general principles with a very few remedies. Probably among all the mineral astringents, there

is none equal to the acetate of lead in controlling this disease. I am aware that with most of our profession there is something horrible associated with the idea of giving a patient ten grains of this drug. This fear all arose from the use of a spurious article, called the plumbi acet. which was in fact, at least one half, the carbonate. It is this latter salt, which produces so many cases of colica pictonum, and not the real acetate as is generally supposed. I usually administer it in conjunction with an anodyne, and a very frequent prescription of mine is, ℞. Pulv., Dover. plumb. acet. ā ā grs. x., M. ft. pulv. No. j. or if any one fears these are incompatibles, take the following, ℞. Plumb. acet. grs. x., pulv. opii, pulv. ipecac. ā ā, grs. j. M. ft. pulv. No. j. The opium, we all know, is the great "pain-killer," and also adds to the astringent properties of the lead, while the ipecac with the opium makes the whole diaphoretic, which gives it a tendency to the skin. Two great reasons why acetate of lead has not been crowned with better success in the hands of practitioners, are: first, the inferior quality of the article used, or from its having been one of the other salts of lead, and second, the minuteness of the doses. I would not complain at five grain doses instead of ten, because the profession think the latter poisonous, but I can assure them it is not, if it be a good article. I have frequently given thirty grains in six hours, and never saw any bad effects resulting from it. Here I would say that I have never known a case in which vegetable astringents were of any service, when lead had failed, but the contrary has often happened. In chronic dysentery it has frequently been observed, that astringents had not the slightest effect upon the disease.

Again: we have another excellent remedy, I was about to say a specific, in balsam copaiba. The good effects of this drug and the power it possesses of controlling inflammation of the mucous membrane, have long been known to the profession, and it appears strange to me that it has not been more generally used in inflammation of the bowels by those who rely so implicitly upon it in gonorrhœal inflammation. They seem never to think of its employment in dysentery; still from my own experience, and its frequent use in both of these diseases, I consider it of no less value in the one than in the other.

Nor am I prepared to say that it is not beneficial in all stages of dysentery. It has been proven beyond a doubt that it can be used in the acute stage of gonorrhœa with perfect impunity and marked benefit.

When I commenced the practice of medicine, I made a solemn vow, that I would ride no hobby in my profession, but that I would keep my mind unbiased and endeavor to learn the whole truth and nothing but the truth. But were I to ride any hobby, I would select copaiba in its application to the inflammation of mucous membranes—whether that which lines the trachea, or the urethra, or any portion of the alimentary canal. A very good form of administering it may be found in the following recipe:—Pulv. acaciæ, sacch. alba, ā ā ʒ ij.; balsam copaiba, ʒ iss.; aqua dist. ʒ j.; tr. opii ʒ ij.; spts lavender comp. ʒ ss. m. ft. emulsio; of this mixture give a a teaspoonful *pro re nata.*

I frequently give lead and copaiba alternately with marked benefit. I have now several cases in mind, where almost every thing had been used and even lead had been given in one grain doses for several days. I commenced with a full dose of lead and opium, and followed immediately with the above emulsion of copaiba, and was no less surprised myself than was my patient, at the rapidity of the cure. The increase of the dose of lead held the bowels in check for a short time, which the smaller dose had failed to do, while the copaiba healed the inflamed surface, and the patient was convalescent.

ART. V.—*Uterine Neuralgia and its Treatment by Galvanism.* By C. H. CLEAVELAND, M. D.

PERHAPS in the whole catalogue of diseases, there are none which cause such intense physical pain, as those diseases of the nerves that are styled *neuralgic*, and none which are more trying to physicians, or more frequently resist all the ordinary methods of treatment.

These diseases being seated in a structure that is without the direct influence of remedies which act through the alimen-

tary canal, or through the circulatory system, would seem to demand for their cure, that the remedy should be of such a nature that it can be applied directly to the seat of the disease. Hence in all cases of neuralgia in those parts of the system that are near the surface, more reliance has been placed upon external than internal medication; and the remedies administered internally have been mainly such as produce a narcotic or stupefying effect, or such as are supposed to produce a more healthy condition of the general system.

Uterine neuralgia, or as it is sometimes styled, *irritable uterus*, has until quite recently been a disease, the nature and even the seat of which was but little understood; but since the speculum has come into more general use, it has received more attention, and its nature and locality have been studied, until now, by those who make use of the modern means of investigating these diseases, it is readily detected.

Unfortunately for the sufferer and the profession, this is a malady, that heretofore has proved one of great obstinacy, and the most enlightened and judicious of the profession have candidly admitted, that no reliable method of cure had been discovered. Those who have not given special attention to diseases of the reproductive organs, have been of the opinion, that neuralgia of the uterus was a rare disease, while those who have paid more attention to derangements of these organs, have pronounced it to be a frequent attendant upon prolapsus uteri, and other displacements of that organ.

Dr. Gooch has clearly described the symptoms in the following words:—"A patient complains of pain in the lowest part of the abdomen, along the brim of the pelvis, and often, also, in the loins. The pain is worse when she is up and taking exercise, and less when she is at rest in the horizontal posture; in this respect it resembles that of prolapsus uteri, but there is this difference, that in the latter, if the patient lies down she becomes quite easy; but in the complaint of which I am speaking, the recumbent posture, although it diminishes, does not remove the pain. It is always present in some degree, and severe paroxysms often occur, although the patient has been recumbent for a long time. If the uterus is examined, it is found to be exquisitely tender, and the finger can be

introduced into the vagina, and pressed against its sides without causing uneasiness, but as soon as it reaches and is pressed against the uterus, it gives exquisite pain." (Such is the fact when the disease does not include the mucous membrane of the vagina, which, according to my experience, it frequently does. When that is the case, the introduction of the finger into, and pressure against the wall of the vagina, causes almost intolerable anguish.) "This tenderness, however, varies at different times, according to the degree of pain which has been latterly experienced. The neck and body of the uterus feel slightly swollen, but this condition also exists in different degrees, sometimes sufficiently manifest, sometimes scarcely or not at all perceptible. Excepting, however, this tenderness, and occasionally this swelling, or rather tension, the uterus feels perfectly natural in structure; there is no evidence of scirrhus in the neck, the orifice is not misshapen, its edges are not indurated. The patient, finding her pain greatly increased by rising and walking, soon learns to relieve herself by lying on the sofa, and at length spends nearly her whole time there. Notwithstanding this precaution there is always a considerable degree of uneasiness, but this frequently increases to severe pain. These paroxysms generally come on either a few days before menstruation, or (as is the case in many instances) a few days afterwards."

Dr. Gooch, to whom we are indebted for the recognition and description of this disease, speaks of it as one of great obstinacy, and of his method of treatment, as having been in most cases tardy, and in many utterly vain. Dr. Dunglison says, "The disease being essentially a neuralgia of the uterus, the treatment will have to resemble that of neuralgia in general." He also says, that "the affection is apt to resist every effort of treatment, so that the patient is compelled to endure it through life; and to avoid those exciting influences which she knows develope suffering."

The patients suffering from this malady, that fell under the care of Gooch, Churchill, and Fergusson, as well as Dunglison, were mostly, if not all, married women.

Churchill says,—"There is scarcely any disease which is so tedious of cure, and none so liable to relapse. The slightest

relaxation of the strictest regimen will often be followed by a recurrence of all the severe symptoms." Dr. Charles Waller, lecturer on midwifery, in St. Bartholomew's Hospital, says,— "No complaint is so subject to a relapse; this has often followed the slightest exertion." "I conclude my observations on this suffering complaint, by again recommending you to warn your patients against the supposition that it can easily be cured."

All who have written or lectured on the subject, have uniformly attested to the painful nature and the intractable character of this terrible disease, and if a method of easy, sure and permanent cure has been or can be devised, it must prove an inestimable boon to humanity.

The power of magnetism, electricity, or galvanism, to allay pain, and to arrest disease in the nervous structure, has been proved by innumerable experiments, from the time that electricity and magnetism first attracted the attention of physicians, down to the present day; yet, as the *modus operandi* of this remedy has not been understood, its power over the nerves, although never denied, and seldom doubted, has apparently been forgotten by the generality of the profession.

Dr. Eberle, in the second edition of his *Practice of Medicine*, Vol. 2, p. 196, says: "The application of a *strong magnet*, has, in a few instances, promptly removed the pain in neuralgia of the face. M. Alibert, in his treatise on *Materia Medica*, mentions some examples of this kind; and a remarkable case of this kind occurred in my own practice about eighteen months ago. A gentleman of this place, daily experienced the most agonizing paroxysms of neuralgic pain in the ramifications of the portio dura. Quinine, the carbonate of iron, arsenic, and belladonna, were used, but without the least advantage. At last I sent him a strong horse-shoe magnet, and directed him to keep it applied to the side of the face, so as to bring the two poles opposite the meatus auditorius. He did so. In about two hours after the magnet was applied, the pain became more severe than ever, so as to nearly deprive the patient of his consciousness. Suddenly, however, the pain ceased entirely, and I found him calm and cheerful in the evening. On the following day, the magnet was again applied,

and the paroxysm was very slight, and not more than one-third the usual duration. In the course of five or six days further, the disease was wholly removed."

In this case, the stream of magnetism that was passed through the affected part must have been very slight indeed, and it was necessary to continue the application for a considerable period of time, yet not longer than it is usually necessary to continue a remedy to remove a long continued disease.

Dr. Pereira, in his *Materia Medica and Therapeutics, American Edition*, pages 75 and 76, says: "In some instances it" (magnetism) "has appeared to exercise a most remarkable influence over neuralgic pains and spasmodic affections; at one time apparently curing, at another palliating, and occasionally augmenting all the patient's sufferings." "Lænnec speaks highly of the efficacy of magnetized plates in neuralgia of the lungs, and in angina pectoris;" in his treatise on the diseases of the chest, as translated by Dr. Forbes, and published in London. He applied two strongly magnetized oval steel plates, one to the left precordial region, the other exactly opposite on the back, so that their poles were opposed. He says the relief is increased if a blister be applied under the anterior plate. The late Dr. Thomas, of London, tried this plan with good effect.

Dr. Pereira says: "To attempt to explain the *methodus medendi* of an agent whose therapeutic influence is not generally admitted, appears to me somewhat premature. I may remark, however, that should the existence of the *electro-vital*, or *neuro-electric* currents in the animal body, as announced by Prof. Zantedeschi, and Dr. Favio, be hereafter fully established, we shall have a ready explanation of the medicinal power of magnetism, in the well-known influence of a magnetic over a voltaic current." For further information in regard to the therapeutic power of magnetism, Dr. Pereira refers to the writings of Andry, Thouret, Dr. Becker, Mühlhausen, and Drs. Bulmerincq, Schnitzer, and Most.

Dr. James, in the *Edinburgh Medical and Surgical Journal*, after narrating his method of applying galvanism, relates a number of instructive cases of neuralgic affections, which occurred chiefly in the practice of M. Magendie, whom Dr

James styles *the* great advocate of this method of treating neuralgia, and which were relieved by this means.

Dr. W. H. Rankin, of Norwich, in the *Provincial Medical and Surgical Journal*, April 19th, 1848, gives a case of *intercostal neuralgia*, that before coming under his care, had had what Dr. Rankin styles the *round* of medicines tried on him, without any benefit. Morphine alone gave him temporary relief from pain. Dr. Rankin says: "Under the circumstances, I determined to give little or no medicine, merely bismuth and rhubarb, and to have recourse to electro-magnetism. This agent was operated with every day during twenty minutes, and a few days only had elapsed when decided benefit was declared. The intervals between the paroxysms were prolonged, and the pain gradually became so tolerable that the patient was able to dispense with his morphine. In the course of a month it had entirely left him, and to this time (nearly eight months) he has not had the slightest return."

Mr. Tuson has recorded, in the *London Medical Times* of Feb. 24, 1849, observations of a very favorable character, respecting the benefit of electro-magnetism in certain local neuralgic affections, the consequence of injuries.

Dr. W. F. Channing, in his valuable work on *Medical Electricity*, under the head of *Neuralgia*, says, "This disease has been treated with great success by many applications of electricity." This author then refers to cases under the care of M. Magendie, M. Thelin, Mr. James, Dr. John Grantham, Dr. E. Hermel, MM. Bally and Meyraux, Dr. Marchant, Dr. Hoering, a correspondent of the *Boston Medical Journal*, whose article was published in October, 1848, and others, in proof of the value of galvanism to cure neuralgic affections. The testimony of those above referred to, is very strong indeed, in favor of this agent for the treatment of neuralgic pains in different parts of the system; and yet, as far as the writer has been able to learn, no definite directions have been offered to the profession in regard to the cure of *uterine neuralgia*, by the same means which have proved so efficacious in subduing these pains in other localities.

Elsewhere, the writer has endeavored to impress upon the

mind of the profession the truth of the idea presented by Dr. Dewees, through the columns of the *New-York Journal of Med.*,* several years since: "That to subdue neuralgic pains, or to increase the vital energy or nutrition of any organ or part of the system, the galvanic current should be made to traverse the nerves in the course of the *vis nervosa*, or *from the nervous centres toward the extremity of the nerves.*"

If the stream of galvanism be sent in the opposite direction, or in other words, the *positive* pole be applied to the extremity of the nervous ramifications, and the negative toward the origin, pains and spasms will be the result, and the neuralgic agony will be increased.

To render galvanism as applicable in neuralgia of the uterus, as it has been found in similar disorders of other organs, a current of very little *tension*, or intensity, should be passed *from* the sacrum *to* the pubis, or from the lumbar region to a negative conductor introduced into the vagina. This latter method insures the more certain passage of the current through the uterus, yet it should be adopted with extreme caution, as the lining membrane of the vaginal canal and the covering of the cervix and os uteri are very thin, and the application of the negative pole for any considerable length of time, will be sure to destroy it and produce ulceration.

The safest method of applying this agent, is doubtless to pass a mild but continuous current through the pelvis for a considerable time, carefully noting the effect, and not continuing the treatment so long as to induce any great amount of arterial excitement in the pelvic region. Reasoning from analogy, we should conclude that neuralgia of this part of the system would yield to the same means which have proved so uniformly successful in other regions, and the *experience* of the writer has clearly established the correctness of this reasoning.

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* *Remarks on the use of Galvanism in the Treatment of certain Nervous Diseases.* By H. P. DEWEES, M. D., of New-York. (*New-York Jour. of Med.*, Vol. viii. p. 295.)

ART. VI.—*The Pathology of the Cervix Uteri in those conditions, attended with Leucorrhœal Discharges: being an attempt to reconcile upon a scientific basis the conflicting views advanced by recent Uterine Pathologists* (read before the Medical Society of the New-York City Dispensary, March 21, 1853), by ELISHA HARRIS, M. D., Physician to the New-York City Dispensary.

To my associates in the medical service of the New-York City Dispensary I need offer no apology for the subject I have chosen for consideration in this paper; for it is an important fact that, of the nearly thirty thousand female patients that annually come under our professional care at this noble charity, we find a larger number suffering from various uterine maladies, of which leucorrhœa is perhaps the most common symptom, than from any other important class of diseases which we are called to treat.

Though pursuing a series of investigations which we hope eventually to see completed, we propose in this paper only to examine and compare the results of observations made by others. That such an investigation may be made profitable, is evident from the fact, that, while there is a striking and happy coincidence in the views of the best uterine pathologists, there exist at the same time some wide disparities and contradictions in their opinions concerning the nature of the organic lesions or abnormities connected with leucorrhœa. These disparities and opposing opinions we propose to reconcile by means of well-established facts; while, at the same time, we shall endeavor to examine these facts with strict reference to a practical purpose. To attain these objects, we design,

I. To examine the most important statements and opinions put forth by the leading uterine pathologists.

II. To institute a careful comparison of these statements and opinions, and the facts upon which they are based.

III. To attempt a deduction of all the important facts and principles connected with this department of uterine pathology.

It is now universally conceded that, in nearly all cases of leucorrhœa, the discharges per vaginam are but symptomatic of some serious lesion or abnormity of the muco-genital tissues, and often of other and deeper structures of the genital organs, with or without primary constitutional affections; and it is as widely admitted that the seat and the nature of these lesions and alterations may be accurately ascertained in every case by appropriate investigations. It is therefore manifestly the first and most important duty of the physician who is called to treat these maladies, to ascertain the exact nature and seat of the local disease, as well as carefully to investigate its constitutional complications, if such exist.

From causes which have been well stated by Mr. Bennett in his treatise on *Inflammation of the Uterus*, all the truly scientific literature of uterine diseases is of very recent date. It is true that Hippocrates, Paulus, Ægeneta, and a few other writers, had made some very rational observations concerning certain forms of uterine disease; and the great Morgagni, in the last century, recorded some exceedingly accurate and practical investigations relating to the pathological characteristics of leucorrhœal affections, in which he resorted to dioptric examinations; yet, previously to the publication of Sir Charles Mansfield Clark's justly celebrated treatise upon the *Diseases of Females attended by Discharges*, all modern teachings and writings in this department of medicine had been extremely vague and unsatisfactory. Though more than fifty years previously to the publication of Dr. Clark's treatise, Morgagni had indicated the true method of studying uterine diseases, and had carefully examined the pathological characteristics and relations of leucorrhœa, the general descriptions of this manifestation of disease, and the doctrines concerning its pathogenic causes, continued to be as vague as the teachings of Astruc, who gravely asserted that "the whites" consisted of pure milk; or of Mauriceau, who says "the whites distil from the same vessels which serve to evacuate the menses." And even the pathological views of Manning and Hamilton were but slight improvements upon the teachings of that sage man-midwife, Mr. Nicholas Culpeper, who conceived that "the whites" were "gathered in the whole body, or in the stomach, liver, and spleen;" being "an excrementitious humor, cholor, or melancholy."

It is now quite customary to attribute the present advanced state of uterine pathology to the employment of dioptric instrumental examinations as a means of diagnosis; but we believe that the existence of such a work as that of Sir Charles Mansfield Clark proves that the speculum should be regarded only as an important adjuvant to the means of correcting and perfecting our knowledge of uterine diseases. In the early part of the present century, MM. Racamier, Lisfranc, and others, revived the use of the speculum matricis, employing it very extensively in their practice; and as the interesting results of their experience were published, great interest in the study of uterine diseases was every where excited. In this country, the publication of the excellent work of Dr. Dewees succeeded the publication of Dr. Clark's treatise in England, and soon followed Heming's translation of the great work of Madame Boivin and Professor Dugés, and soon after another by Duparcque. In the year 1845, Dr. W. C. Roberts, of this city, published a most elaborate and valuable essay on the *Pathology of Leucorrhœa.** In this essay Dr.

* New-York Journal of Medicine, Vol. IV.

Roberts strongly advocates the views since published by Dr. J. Henry Bennett; and since the appearance of Dr. Bennett's work, uterine pathology has received greater attention than ever before. From the abundance that has been written, and out of the scattered but original observations of many who have carefully studied this department of pathology, we hope to educe important principles to guide and assist us in the study and the treatment of those uterine diseases which claim so great a proportion of our attention in practice.

As priority of names and dates is of no consequence in the investigation which we propose, we will commence our examination with the more recent pathologists, and in the order that may best suit our purpose.

Mr. Whitehead of Manchester, in his valuable treatise on the *Causes of Abortion and Sterility*, has indicated the following important facts concerning leucorrhœal discharges and the pathological conditions upon which they depend: 1st. That the secretion from the cervix uteri is invariably alkaline, and that the secretion from the vaginal membrane is always acid. 2d. That those leucorrhœal discharges which are transparent and glairy, communicating no stain, &c., have an alkaline reagency which is more or less faint in proportion to the vaginal secretion with which it may be incorporated. He remarks that "it indicates a high state of vascular excitement, and is attended with general febrile irritation, pain of the loins, bearing down, and physical depression." 3d. That those discharges which are opaque and very abundant, have an acid reaction, and are often attended with constant pain in the region of the vagina and vulva, œdema of the extremities, lassitude, palpitation, and general anæmia. 4th. That purulent leucorrhœa is more frequently met with in pregnancy than the preceding forms; that the discharge has an alkaline reaction when removed immediately from the diseased surface. "The symptoms accompanying this form of leucorrhœa, are alternate chills, and feverish reaction, aching of the loins and the extremities, pain in the inguinal and left hypochondriac regions, and along the spine and the back part of the head."

Mr. Whitehead found in this class of cases, that the vagina was seldom implicated in the diseased condition, but the lower part of the uterus he uniformly found in a state of hypertrophy, sometimes indurated, and very generally presenting a surface of ulceration, or excoriation of greater or less extent. "Abortion," he observes, "occurs more frequently under this condition of parts than any other." As respects the prevalence of leucorrhœa during pregnancy, Mr. Whitehead found, that of 2000 pregnant women, 1116 were suffering from leucorrhœa; and that

of this number, 936 had discharges containing pus: 544 of this latter class of patients had previously miscarried. Of 45 women pregnant for the first time, all suffering from leucorrhœa, 28 had discharges of a purulent character. In 25 of these cases he made an examination of the uterus, and found that, with one exception, they all had what he considered ulcerative disease of the cervix; and in the exceptional case there were syphilitic excrescences. Mr. Whitehead asserts that of more than 2000 females laboring under leucorrhœa, and in whom he examined the uterus with the speculum, he found that, with comparatively few exceptions, there existed sufficient structural lesion to account for all the symptomatic phenomena; in the great majority of the cases, the cervix and labia uteri being the seat of excoriations, erysipelas, high vascular excitement, &c.

Dr. Evory Kennedy, in a highly instructive paper entitled "*Practical Observations on some Congestive Inflammatory and Ulcerative Affections of the Uterus*," * has given a very satisfactory statement of the principal pathological conditions upon which leucorrhœal discharges depend. He remarks that congestion may exist without any lesion of the uterus, or it may be combined, as it frequently is, with excoriation, ulceration, or granulation of the cervix. Dr. Kennedy remarks that "we are quite justified in saying that rarely does inflammation or congestion persist for any great length of time without lesion of the investing membrane, within or without the uterus, following; and more rarely still does lesion occur without congestion or inflammation resulting." Speaking of ulcerations of the cervix, Dr. Kennedy observes that "the simplest form in which the mild ulcer of the uterus shows itself, may be termed excoriation or erosion, in which it exactly resembles an abrasion of the cuticle in the male. . . . . These cases usually commence upon the prominent part of the lips of the uterus; whilst some, spreading from the interior, the result of, perhaps, a similar state of the lining membrane, extend to the os or vagina." Dr. Kennedy describes a morbid appearance of the os uteri, that he considers a form of ulceration, and which he describes as the "*Cock's Comb Granulation;*" but which, as we shall have occasion hereafter to notice, is really, not an ulceration, but a morbid appearance of the penniform rugæ of the canal of the cervix. He also refers to another and common form of supposed ulceration, affecting the os principally, which is exceedingly vascular, and describes it as being doughy or boggy in its structure and feel. This he denominates the *bleeding ulcer;* and remarks that the leucorrhœal discharge attend-

* Dublin Quarterly Journal, Vol. III.

ing it, may be but trifling and attract but little attention. In concluding his remarks on ulcerations of the cervix uteri, Dr. Kennedy observes that "it may be asked how far we are justified in thus describing these ulcers or granulations of the uterus under distinctive denominations; and whether they are not referable to the same diseased action in different stages of its development?" He admits that catarrh of the uterus and vagina is a common affection; and remarks that from the extension and continuation of the inflammation the glandular structures in the neck and os become diseased. Concerning the changes that occur in the parts in catarrhal leucorrhœa, he observes that the os is usually patulous, the inner edge red and granular, bleeding on the slightest touch, and the os plugged up with viscid muco-purulent matter, a portion of which hangs out into the vagina." "This is a disease," he says, "frequently met with in married females who have borne no children, and it is one of the most frequent accompaniments of barrenness, frequently, perhaps, its cause; it is also often met with in unmarried females; and married females, who, whilst they often trace it to repeated miscarriages, just as often admit its having existed years previous to their marriage."

The celebrated Lisfranc, than whom no physician is better prepared to speak from experience, makes the following statement concerning the pathological causes of leucorrhœa. "In almost all women affected with discharges from the vagina, we find the posterior lip of the neck of the uterus colored and red; and this state of injection seems to depend on the contact of the fluid secreted by the uterus, in the same way as tears cause redness and excoriations on the cheek.... There are other injections, seated in a part or in the whole of the neck of the uterus;.... they are of a red-brown color, and are slightly elevated above the level of the surrounding healthy parts." He continues, "I have sometimes seen them formed by a net of small vessels arranged as we find them in inflammation of the pharynx." And again: "Sometimes the neck of the uterus is marked with small miliary vesicles, and when these vesicles burst, they give rise to small superficial ulcerations." As regards the precise anatomical lesions in these cases, he mentions that during the epidemic cholera, several of this class of patients died in La Pitié, and the neck of the womb was examined with the utmost minuteness; "the mucous membrane was found red, softened, a little fungous; the ulceration was superficial, and beneath it the tissue of the uterus was sometimes superficially affected and soft, at other times perfectly sound."

Dr. Tyler Smith, of St. Mary's Hospital, London, has recently prepared an elaborate and highly practical *Memoir on the Pathology of Leucorrhœa*, based upon the microscopical anatomy of the os and cervix

uteri. This Memoir, which is published in the *Med. Chirurg. Transact.*, Vol. XXXV., is a paper of unusual originality and merit; and as the results of these interesting investigations of Dr. Smith have a very important bearing upon this department of pathology, I shall take the liberty of making free quotations from his paper. Of the entire accuracy of the anatomical and microscopical investigations upon which it is based, these can be no question, as the examinations were made by Dr. A. H. Hassall and Dr. Handfield Jones, two of the most experienced and accurate microscopists in Great Britain. If all of Dr. Tyler Smith's pathological researches in future come to us as well authenticated and as unequivocally demonstrated as are those contained in this Memoir, he will no longer be subject to censure for extravagant or premature conclusions.

Dr. Smith commenced his investigations with an examination of the leucorrhœal secretions in every suitable case at St. Mary's Hospital during many months; and he remarks that "the results of these examinations were hardly such as might have been anticipated. The opaque, curdy and creamy discharge found lying upon the surface upon the vagina and the external portion of the cervix uteri, seems to the naked eye widely different from the viscid, transparent secretion seen issuing from the cervix uteri. Yet, under the microscope, both were found to consist of nearly the same elements, viz. mucus or pus globules and epethelial particles, involved in a thick tenacious plasma. The only difference appeared to be the relative quantity of squamous epithelium and mucus corpuscles. In the vaginal secretion, the epithelium was in greatest abundance, while mucus corpuscles were in excess in the secretion from the canal of the cervix. It was evident, however, that the physical qualities of the discharges did not depend upon these variations, as the opaque and the transparent viscid secretions were sometimes quite identical in their microscopical appearances. It became an object, therefore, to ascertain the precise structures which secreted these discharges and the causes which modified their sensible and microscopical appearances." Dr. Smith and his able assistants entered upon an extended examination of both healthy and morbid uteri, and the following are some of the most important results of their investigations.

First, as regards the mucous membrane of the utero-vaginal tract, the epithelium is of the tesselated or squamous variety on all that portion exterior to the os uteri; while the canal of the cervix and the cavity of the uterus are lined with an epithelium of the cylindrical variety; and from a line just within the os, or from the inferior boundary of the penniform rugæ the epithelial structure is ciliated.

He remarks that "on looking at a section taken from the os uteri, an appearance very similar to that presented by mucous follicles is observed; but on closer examination it is found that the dark spots, although depressed in the centre, are slightly elevated and contain dark-red points, which are the terminations of the looped blood-vessels of the villi. These appearances seem in fact to be nothing more than the villi obscured by their epithelial covering. In examining different parts of the same specimen we may see that what at first appear to be depressions are in reality slight elevations. If a thin portion be sliced from the surface of the mucous membrane in this situation and examined with a high power, the points of the villi appear nipple-shaped and the whole surface is studded with eminences.... In the centre of each villus a slight depression is seen, which suggests the probability that the extremities of the villi may be more particularly concerned in the production of vaginal mucus. The thick layer of epithelium and the villi, with their looped vessels, are the principal anatomical features of the mucous membrane of the os uteri and external portion of the cervix; and it will be seen in the sequel that both villi and epithelium play an important part in the pathological changes which occur in the lower segment of the uterus in leucorrhœa."

"Examined by the microscope, the mucous membrane immediately within the os is found to be composed of cylinder epithelium arranged upon villi somewhat after the manner of the epithelium covering the villi of the intestinal canal, of basement membrane and of villi, three or four times longer than the villi of the external portion of the os uteri. Occasionally, the villi in this situation are *compound*, consisting of two or three or even four villi, arising from a single stalk. They are covered, as well as the spaces between them, with cylinder epithelium, dentated in shape. They contain looped blood-vessels, and, situated between the blood-vessels and the basement membrane, numerous oil globules, many of them of large size, are found, as well as an abundance of small granular cells.... At the bases of the villi, their blood-vessels inosculate every where freely, as in the case of the villi outside upon the os uteri."

The foregoing description of the microscopical anatomy of the villi of the os and cervix uteri, is fully corroborated by the observations of Mr. Hassall, Mr. Kiernan, and Dr. Franz M. Kilian, so far as these gentlemen have examined the structures in question.

In reference to the proper glandular structures of the canal of the cervix uteri, Dr. Smith's investigations have been exceedingly satisfactory, and are practically important; for as he justly remarks, concerning all former descriptions of these structures, "names too often hide the real significance of things, and the terms penniform rugæ, palmæ

plicatæ, glandulæ Nabothi, and arbor vitæ uterinus, would seem in this instance to have been received in lieu of more accurate description." The results of Dr. Smith's investigations of the anatomical structure of the canal of the cervix, are briefly as follows: "When the cavity of a cervix uteri, belonging to an organ which has never been impregnated, is laid open by a longitudinal incision, so as to expose the whole of the cervical canal, the internal surface is generally found to contain four columns of rugæ, or folds of mucous membrane, arranged in an oblique, curved, or transverse direction." Two of these columns of rugæ or folds, are arranged on the anterior surface of the canal of the cervix, and two on the posterior; the posterior portion being largest, and containing the greatest number of folds or rugæ. Seen by the unassisted eye, the number of folds or rugæ in each column is about fifteen. These transverse rugæ, with the fossæ between them, are in the normal state "filled with viscid semi-transparent mucus, and when this is drawn out or brushed away, a reticulated appearance, caused by numerous secondary rugæ, is visible in the mucous membrane beneath."

"At some points of the fossæ, the mucous crypts are deeper than at others; and here and there minute openings are seen at the bottom of the pits, into which fine bristles may be passed to the distance of the twelfth of an inch. . . . . If a portion of the cervix be magnified still further to the extent of eighteen diameters, it will be seen that the rugæ themselves, and even the secondary septa, are covered in the greater part of their length with mucous follicles. The crypts in the furrows are still further divided, and subdivided, so as to double or treble the number of follicles and lacunæ seen with the lower power. In a portion of the cervix, comprising only three rugæ and their two interspaces, upwards of five hundred mucous follicles were easily counted, so that it is within the limits of moderation to say, that a well-developed virgin cervix uteri, must contain at least ten thousand mucous follicles. When a longitudinal section is made through one of the rugous columns, the fossæ are found to extend obliquely and deeply into the substance of the cervix, sometimes to the extent of the sixth part of an inch, but occasionally mucous openings pass into the centre of the walls of the cervix, and may be seen filled with tenacious mucus, proper to the cervical canal. Besides the arrangements already described, the superficial surface of this portion of the cervical canal is still further increased by the presence of villi, similar to those found in the lower part of the cervix."

Dr. Smith remarks that, in effect, the cervix uteri is an open gland, and it is his opinion that it is in this part of the utero-vaginal tract that the principal seat of leucorrhœa exists.

Concerning the normal mucus secreted by the glandular portion of the cervix, Dr. Smith remarks that "it is extremely viscid and almost transparent; it adheres to the crypts and rugæ, so as to fill the canal of the cervix. It consists chiefly of mucus corpuscles, minute oil globules, occasionally dentated epithelium, all entangled in a thick tenacious plasma." Vaginal mucus, as already mentioned, he considers essentially similar to that from the cervix, except that it contains a large amount of squamous epithelium, and epithelical debris. The most essential difference between the mucus from the vagina, and that from the cervix uteri, is that the latter is invariably alkaline, while the former is as uniformly acid; and Dr. Smith considers that it is to this chemical difference that we must look for the cause of the different outward appearances presented by vaginal and uterine mucus.

As we have already noticed the observations of Mr. Whitehead on this point, we need not repeat his remarks relating to this subject.

Dr. Smith remarks that "the ordinary use of the vaginal mucus seems to be the lubrication of the surfaces of the vagina, and the external surfaces of the os and cervix uteri. The uterine cervical mucus has other uses to perform besides the lubrication of the membrane by which it is secreted. When the cervix uteri is found perfectly healthy, little or no discharge is seen issuing from the cervical cavity; but when the labia uteri are separated, the canal of the cervix appears to be full of its secretion. In examinations after death, in cases in which the uterine organs are in a healthy condition, the mucous crypts and the canal of the cervix are found filled with viscid mucus, so as entirely to block up the passage from the vagina to the cavity of the fundus. This appears to be the normal condition of the cervical canal. . . . . It would seem to be the function of the glandular structure of the cervix, in the unimpregnated state, to secrete each month a sufficient quantity of viscid mucus to fill the channel of the cervix, the mucous follicles becoming comparatively inactive when this has been accomplished, until after its removal at the next flow of the catamenia." In healthy subjects, Dr. Smith asserts, the canal of the cervix is always full in the intervals between the menstrual periods, though there certainly seems nothing like a constant flow of the cervical mucus into the vagina.

Sir Charles Clark was of the opinion that the cervical mucus was secreted only during the period of gestation, but hundreds of observations have convinced us of the erroneousness of that opinion; and had he based his valuable observations on dioptric examinations, he would not have made such a vague suggestion. We are of the opinion that all who have accustomed themselves to ocular demonstrations of the pathological seat and phenomena of uterine maladies will admit the rationality and

truthfulness of Dr. Smith's views concerning the glandular character of the cervix uteri and its secretions. Indeed, Dr. Smith's investigations have served more accurately to demonstrate the correctness of the prevalent opinions concerning the nature and seat of leucorrhœal discharges. And may we not hope that the doctrines of uterine pathology generally may soon be as well settled, as are those of ophthalmic medicine, or any other department of pathological science. Not that Dr. Tyler Smith has achieved such improvement in this vexatious department of pathological investigation, but that he has commenced a series of investigations in the right direction. The diligent labors of Racamier, Lisfranc, Boivin, Dugés, Duparcque, Gendrin, Jobert, Chomel, Gibert, and others in France; Clark, Lee, Locock, Simpson, Kennedy, and Bennett, in Great Britain, have so far advanced the science of uterine pathology, that it is now rendered absolutely essential to further advancement that the exact seat and nature of the morbid phenomena of uterine diseases be studied *de novo*, and with the most rigid exactness. We need no more new theories, nor exclusive doctrines in this department of medicine; but we do need some initiatory facts and first truths, by means of which we may reduce the great mass of varying facts and conflicting doctrines to something like a harmonious and scientific system. It is immaterial to the physician whether this or that theory in uterine pathology be the true one, or the one nearest the truth. It is equally as agreeable to be a believer in the doctrines taught by the enthusiastic Dr. James H. Bennett as in those of the conservative gentlemen who so violently oppose him. What we want is the truth, the whole truth, and nothing but the truth; and this we shall be most likely to find by subjecting all their facts and theories to rigid tests in the crucible of experience, and where we find a new series of facts or investigations required, we must at once supply the deficiency. Such a deficiency has been partially supplied by Dr. Tyler Smith ir the paper from which we have quoted.

Some of Dr. Smith's conclusions are interesting and important. He says, "it is impossible to do otherwise than form the conclusion, that the glandular portion of the cervix uteri is the chief source of the discharges in the most common forms of leucorrhœa. This has often been suspected to be the case to a great extent, but it could not be asserted as a positive doctrine until the minute examination of the glandular structure of the cervical canal had been made, nor until the proof of the absence of any other follicular or secreting surface adequate to the pouring out of a profuse leucorrhœal discharge had been obtained."

"Leucorrhœa," continues Dr. Smith, "in its most simple and uncomplicated form, is there the result of a morbid activity of the glandular

portion of the cervix. A follicular organ, which should only take on an active condition at certain intervals, becomes, from a variety of causes, constantly engaged in secretion. Instead of the discharge of the plug of mucus at the catamenial period, an incessant discharge is set up. This form of leucorrhœa is to the cervix, what menorrhagia is to the cavity of the fundus uteri." And he adds as the result of his observations in practice, "that the quantity secreted daily is sufficient, in severe and continued cases, to prove a serious drain to the constitution; and the glandular cervix becomes in some instances so excitable, that any unusual stimulus provokes a sudden flow of mucus. The relation of mental emotion to the cervical follicles becomes almost as intimate as the connection between the mind and the lachrymal glands." Dr. Smith admits that leucorrhœal discharges may and do occur without any disease of the cervix uteri. These may be denominated vaginal or epithelial leucorrhœa.

Concerning the pathological condition of the mucous membrane in which abrasions and ulcerations existed at the time of death, Dr. Smith and Dr. Hassall have ascertained the following facts by post-mortem microscopal examination of the diseased tissues. 1st. The epithelium of the external portion of the os and cervix uteri and of the upper portion of the vagina may be partially or entirely removed, or there may be morbid patches in which the epithelium may be here and there wanting. To the touch the abraded surface feels erectile and velvety. The villi do indeed in this condition stand out somewhat like the pile of velvet, and in some cases the villi themselves are considerably enlarged. In other cases there is not merely loss of the epithelium, but the villi, both of the external surface of the os uteri and of the mucous surface within the labia uteri are destroyed in patches. In that condition of the os uteri which upon examination after death would be pronounced to be undoubted superficial ulceration, the state which generally obtains is partial or entire loss of the epithelial layer in circumscribed patches, and here and there the loss or partial destruction of the villi. This gives an eaten or corroded appearance to the mucous surface.

Dr. Smith makes the following remarks concerning the "cock's comb" granulations that are frequently observed in cases of leucorrhœa of long standing:—"When the os uteri is open, and the cervix partially everted so as to bring the penniform rugæ into view, an appearance is produced which has been considered a form of ulceration called the "cock's comb" granulation, the serrated edges of this so-called ulcer being in reality the penniform rugæ presenting at the os uteri, denuded of epithelium, and with the villi florid and enlarged."

[To be Continued.]

PART SECOND.

CRITICAL ANALYSIS.

ART. VII.—*On the Diseases of the Kidney, their Pathology, Diagnosis, and Treatment.* With an introductory chapter on the Anatomy and Physiology of the Kidney. By GEORGE JOHNSON, M. D., London, Fellow of the Royal College of Physicians, &c. London: 1852.

SINCE the publication of Dr. Bright's very original *Report of Medical Cases in Reference to Morbid Anatomy*, in 1827, renal pathology has been studied with great zeal by many of the most eminent pathologists. Rayer and Martin Solon, in France; Gluge, Henlé, Rokitansky and Frerichs, of Germany; Prout, Christison, Simon and Johnson, of Great Britain, are but a few whom we recall to mind, as having made important contributions to this interesting but obscure subject. The additional light which chemistry afforded in the examination of the urinary secretions, gave to the investigations of Prout a new interest, and a character of precision and accuracy hitherto unknown. The chief advantage obtained, however, (and this was of more real consequence to the profession at large than any other,) was in the therapeutics of renal disorders. Empirical treatment yielded somewhat to rational treatment, and certainly took the place of uncertainty. When, however, the microscope came to reveal the minute anatomy of the kidney, a new impulse was given to renal pathology. The greatest zeal and enthusiasm was manifested in the investigation of the morbid anatomy of the kidney, with the aid of these two most powerful means of minute analysis, by competent and, learned observers. And although much has been accomplished, and the evidence now seems conclusive, that for early and accurate diagnosis the microscope is to many renal diseases what the stethoscope is to pulmonary affections, yet the latest work on the *Diseases of the Kidney*,

by an eminent renal pathologist, bears evidence on every page of the necessity of resorting largely to hypothesis and assumptions for data with which to complete a full treatise on this subject.

Dr. Johnson takes rank among the best British pathologists, and his contributions to the pathology of the kidney especially, have been neither few nor unimportant. In 1846, he communicated to the Royal Medical and Chirurgical Society, a paper on the Minute Anatomy and Pathology of Bright's Disease of the Kidney; in 1847, he made another communication to the same society, on the Inflammatory Diseases of the Kidney; in 1850, the Society published a third paper by the same author, On the Proximate Cause of Albuminous Urine and Dropsy; and On the Pathology of the Renal Bloodvessels in Bright's Disease; he is also the author of the article, Ren, in the Cyclopædia of Anatomy and Physiology; and being appointed to deliver the Gulstonian Lectures, in 1848, at the Royal College of Physicians, he chose for his subject the Pathology and Diagnosis of Renal Diseases, and finally we have his last work as announced at the head of this article. The examination, therefore, of the leading sections of Dr. Johnson's work, which embrace his more recent and maturer views of the diseases of the kidney, cannot fail of interest to those readers into whose hands the volume itself has not fallen.

It is quite impossible in the present state of microscopical anatomy, to study successfully the diseases of the kidney, without first acquiring a knowledge of its intimate structure. We do not, however, intend to dwell upon this point, further than to remark that Dr. Johnson's investigations into the Minute Anatomy of the Kidney, only confirm the researches of Bowman, which are now contained in all our best works on anatomy and physiology. The specific gravity of the urine was estimated by Dr. Prout, to range from 1015 in the winter to 1025 in the summer; Dr. Routh found the average of eighteen cases to be about 1021 in twenty-four hours. The quantity of urine secreted in twenty-four hours, was set down by Dr. Prout, at from thirty ounces in the summer to forty ounces in the winter. The density, and not the quantity of urine discharged in a given time, is the index of the manner in which the kidneys perform their function. Dr. Golding Bird found from a large number of observations, that the kidneys effected the secretion of from 600 to 700 grains of solids in twenty-four hours, making an average of 650 grains as a standard of comparison. Dr. Johnson introduces the table calculated by Dr. Bird, from a formula proposed by Dr. Christison, which shows the number of grains of solids in, and the weight of, a fluid ounce of urine of every density, from 1010 to 1040.

This table is found in Dr. G. Bird's work on *Urinary Deposits*, republished in this country, and is very serviceable to the physician, as it enables him to estimate very nearly the daily secretion of solids by the kidneys at the bedside of his patient.

The Causes of Renal Disease. After excluding cancerous affections and those diseases which arise from local or mechanical causes, Dr. Johnson asserts that "it will be found that all the causes of renal disease have this common feature—that *they tend to produce a morbid condition of the blood*, either by introducing some poison from without, or by interfering with the elimination of certain noxious matters developed within the body, by so far reducing the quantity of nutritive food that it is insufficient for supplying the waste of the tissues, and for enabling the blood to maintain its healthy composition, or, lastly, by some exhausting or depressing agency which lowers the vital energy, and diminishes the power which the healthy body possesses of resisting and overcoming injurious influences whether originating within or without." The first cause mentioned under this head is exposure to cold and wet. We may be curious to know how a common cold tends to produce such a morbid condition of the blood, as in its turn will give rise to grave renal diseases. It is thus: the action of the skin and kidneys is vicarious; the amount of liquid which they respectively give exit to, varies with the temperature of the external air, the largest quantity escaping by the skin in warm weather, the urine being scanty, while in a cold atmosphere these proportions are reversed. It is probable, however, that the excretions peculiar to each, are not affected by changes of temperature, unless the cold be long continued and combined with fatigue; but under these latter circumstances, it is probable, that the cutaneous excretion is diminished, and must consequently either accumulate in the blood, or be eliminated by some other channel. Here is the solution of the question: the cutaneous excretions accumulate in the blood, and the kidneys, not now acting vicariously, attempt their elimination; but having to do with an excretion not natural to them, the secreting cells of these organs become diseased in their efforts to accomplish this unnatural task. We need scarcely add, that this theory of the action of cold in the production of renal diseases, is not based upon facts, but probabilities, and is equally applicable to the diseases of other internal organs resulting from the same cause. Such extension of its application, however, our author would not care to admit. There is much truth in the idea of retained excretions from suppressed cutaneous perspiration, but until better evidence is adduced to prove that such is the causative relation of cold to inflammation of the kidneys, we prefer

the old opinion of *congestion*, which is founded in fact, and leads to a very correct appreciation of the therapeutical indications.

Disease of the heart or lungs may cause disease of the kidneys, not so much, Dr. Johnson avers, by the congestion they induce from mechanical obstruction to the circulation, as most pathologists assert, as by the impediment which they offer to the respiratory function, and thus giving rise to the retention of excrementitious matters in the blood. "The kind of disorder which is most likely to produce renal mischief is, in the heart, disease on the left side, either of the aortic or mitral valves; and in the lungs, that distressing complication of emphysema with chronic bronchitis, which is so common in this country during the winter season. As a consequence of either of these diseases the respiratory function of the lungs is imperfectly performed, and the blood is changed in its composition, first, by containing less than the natural quantity of oxygen, and secondly, by containing an excess of carbonic acid, and, probably, of other excrementitious matters. And it is not to be supposed that in these respects alone the composition of blood is changed by deficient pulmonary respiration. For the blood being a living liquid, the very centre of life and of changes more active than occur in any other part of the body, the retention of excrementitious matters within it cannot rightly be considered as, simply, so much poisonous material added to the normal composition of the blood, but, rather, as a source of further changes more complicated than could be traced by any chemical analysis."

The most important of the fever poisons is that of scarlatina. Dr. Johnson does not consider renal dropsy "a necessary or a natural consequence of the fever poison," for it may come at any stage of the fever, depending only upon the diversion of this poison from its true course of elimination, the skin, to the kidneys. The most common disturbing cause is exposure to cold; equally injurious is the opposite method, or close confinement in ill-ventilated apartments. Alcoholic stimulants, by increasing the febrile disturbance, diminishing the secretions of the skin, and exciting the kidneys to action, tend powerfully to direct the fever poison to these organs, and as a consequence to induce renal dropsy. The same may be said of all diuretic medicines; the prime object therefore should be to relieve as much as possible the kidneys, and promote the action of the skin and bowels. The early administration of food of an indigestible nature or in large quantities is to be avoided during convalescence from scarlet fever. Renal disease may also occur in connection with measles, erysipelas, typhus or rheumatic fevers, during the progress of chronic diseases, from the poison of cholera, gout, &c. Some occupations which compel close confinement are productive of renal

disease, but too often other causes, as excessive labor in ill-ventilated rooms, intemperance, &c., are found coexisting among this class of patients. The last cause mentioned is the scrofulous diathesis. "In such cases it is probable that the kidney suffers, in common with other organs, from the morbid condition of the blood and the general impairment of nutrition. Renal disease often coexists with scrofulous disease in other organs; not unfrequently with tubercular disease of the lungs, or with disease in the liver or in the bones." The kidneys may also be the first organs to suffer, where there is a tendency to disease of a scrofulous nature, the influences which develope this affection acting primarily upon the kidneys.

Acute Desquamative Nephritis.—The disease to which Dr. Johnson gives this title is more generally known as the early stage of Bright's disease. It is the most frequent of the acute diseases of the kidney, and is generally associated with all the cases of the so-called acute inflammatory dropsies, of which that occurring in connection with scarlatina may be taken as a type. This is therefore the first stage of Bright's Disease. The attack is characterized by well marked inflammatory symptoms, as rigors, fever, quick pulse, dry skin, thirst, loss of appetite, pain in the back, limbs and head. Dropsy usually appears very early, marked by pallor and puffiness of the face; the effusion gradually extends until it involves the areolar tissue of the body, as well as the serous cavities. The urine is scanty or perhaps entirely suppressed, varying from a slight smoky to a dark color from the admixture of blood, and so charged with albumen as to become almost solid when treated with the proper tests. The specific gravity at this stage varies but little from health, although a comparison of the quantity with the specific gravity, according to the table quoted above, exhibits marked deficiency in the solids. There is also more or less pain and tenderness in the loins; the pain is not usually severe, and occasionally extends down the inside of the thighs and to the testicles; nausea and vomiting are common, with uneasiness and tenderness in the epigastrium. Inflammation of one or more serous membranes may supervene, or the respiration may become impeded by œdematous or inflammatory effusions, or finally convulsions may occur, followed by coma and death. Amendment, on the contrary, is marked by an increase in the quantity of the urine, which has a less specific gravity, is of a lighter color, and less albuminous. These symptoms are usually preceded several days by the disappearance of the dropsy, but the pallor of the skin remains for an indefinite period, showing the destructive influence which has been exerted upon the blood, while the voracious appetite of the patient during convalescence indi

cates the demand of the system for new material to supply the waste of its tissues.

When the urine in this disease is submitted to microscopical examination, the sediment is found to be composed of coagulated fibrin, blood corpuscles, cells having the characters of renal epithelium, and occasional crystals of uric acid. In addition to these, masses of fibrin are observed, which, having exuded from the Malpighian bodies, has coagulated in the tubes, and on escaping thence, presents solid cylindrical moulds of the interior of the tubes, in which are entangled blood corpuscles and epithelial cells, which have been shed by a process of desquamation from the surface of the tubes. These bodies are called *epithelial casts*, and, taken in connection with scattered epithelium and blood corpuscles, are indicative of a recent attack of acute desquamative nephritis. When the disease has continued beyond a period of two or three weeks, oil globules may be seen in some of the epithelial cells; this is much more common in adults than in children, and though a symptom of grave import generally, showing a tendency to fatty degeneration, still by far the greater number of these cases recover.

When this disease terminates fatally both kidneys are found about equally diseased, increased in size, weight and vascularity, the surface smooth, and the capsule easily peeled off; patches are seen quite pale, as if from a deposit of new matter; in other parts the vessels are filled; while in some specimens there is so little appearance of vascularity that the cortical substance appears anæmic, in others the vessels are every where gorged. On section the cortical portion presents the same irregular mixture of congestion and anæmia, as the capsular surface; ecchymosed spots are noticed which consist of blood extravasated into the convoluted tubes; the medullary cones are usually of a dark color from venous congestion, the bodies being compressed by the swollen portions of the cortical substance which passes between them, the bases being spread out into the cortical substance. Microscopical examination shows that the disease is principally limited to the cortical portion of the kidney; the convoluted tubes are crowded in different degrees with epithelial cells, the anæmic patches marking the portions most affected; these red spots are seen to be tubes filled with blood, which has escaped from the ruptured capillaries of the Malpighian bodies; these capillaries are thickened and filled with blood globules; the capillaries of the other portions of the kidney, and also the arteries and veins are congested, but healthy in structure. Other organs are variably affected; the bladder is often quite empty, the mucous membrane congested; there is dropsy of the areolar tissue, and one or more of the great serous cavities; the liver

may appear enlarged; the lungs are commonly gorged with frothy or bloody serum, and their substance is more or less carnified or hepatized. The serum of the blood has a diminished density; the albumen is deficient, and the amount of fibrin varies with the secondary inflammation.

Dr. Johnson adopts the following proposition as a central truth in regard to the pathology of this disease, viz.:—that *all the changes of structure commence in the secreting cells of the glands, and are the result of an effort made by the cells to eliminate from the blood some abnormal products, some materials which do not naturally enter into the composition of the renal secretion.* The argument by which the author attempts to establish this proposition is very unsatisfactory, and must fail to convince the most credulous. With the exception of two or three facts, it is based on assumptions and foregone hypotheses, which have scarcely the credit of plausibility. The point, however, which Dr. Johnson wishes to make out, is this: A cause productive of renal disease affecting the system, charges the blood with morbid material, which the kidneys undertake to eliminate; but these matters not being normal constituents of the urine, the secreting cells in their effort to separate the strange material become modified in their action and nutrition, and are shed in large quantities into the tubes. Hence follows diminished secretion, which involves retarded circulation, and, consequent upon the latter, serum escapes freely from the gorged capillaries, and, mixing with the urine, renders it albuminous. In the appendix to this chapter, Dr. Johnson states the opinion of Frerichs, who would not admit such a disease as desquamative nephritis, but believes that the appearance of renal epithelium in the urine, is owing to the cells becoming entangled in the fibrin which coagulates in the tubes, and with which they escape. The starting point of the disease, in his opinion, is the effusion of albumen and fibrin. In dissenting from this explanation our author offers far better reasons for his theory than in the section just noticed. He contends that the epithelium is in much greater abundance than Frerichs' theory admits of, that tubes in which no casts are found are often crowded with epithelial cells, and finally, that there are cases in which fibrin is effused, and in which the urine contains numerous casts, but no appearance of renal epithelium. These points are necessarily too speculative to be dwelt upon profitably, and we shall pass to more practical matters.

In the *diagnosis* of this disease, it may be stated, that "the dark-colored, smoky, highly albuminous urine, with a copious, heavy, dark brown sediment, is more frequently connected with the acute form of disease now under consideration than with any other condition." For a correct, differential diagnosis, however, the microscope must be employ-

ed; the points to be determined in this examination have already been stated at sufficient length.

The *prognosis* in acute desquamative nephritis is more favorable than in any other form of renal disease. The first danger to be apprehended is from the retention of urea in the blood; when this is past, signs of improvement may be looked for. The questions of greatest interest now are: Has any permanent injury been inflicted upon the kidney? secondly, Is it probable that the patient will have a return of the disease? "In reply to the first question, it may be said, that if the urine has returned to its natural condition, being normal in color, quantity, and density, free from albumen, and from all trace of casts or of renal epithelium, whether entire or disintegrated, the patient is completely cured." The liability of a return of the disease depends principally upon the nature of the cause, whether it will recur or not. If the attack is traceable to scarlatina or measles, the probability of a return is infinitely less than when dependent upon fatigue, intemperance, exposure to wet and cold, for the obvious reason that the former causes rarely affect the system a second time, while the latter are almost incidental to life. This statement, however, is made on the assumption that a patient who has had an attack of renal disease originating from a particular cause, and has been entirely cured, is no longer susceptible of the influences of the other causes—an assumption which the author admits to be improbable.

Although Dr. Johnson asserts that he bases the *treatment* of this disease upon his interpretation of its phenomena, it will be seen that he adds little to our knowledge of its therapeutics. The directions, however, which he details quite minutely, we believe to be judicious, and will repay a careful perusal. The first thing to be considered in the treatment of acute inflammation of the kidney, is, that the exciting cause is a morbid condition of the blood, and as a consequence of the renal disease the blood has become contaminated by the retention in it of urea and other excrementitious matters. Hence the object of treatment will be to relieve the kidneys as much as possible in their efforts at elimination, by exciting to increased action other excretory organs, and whatever may have been the original cause of the blood-disease, the treatment is, for the most part, the same. Rest in bed, in a room of uniform temperature, is of great importance, as it both prevents exposure to cold, and equalizes the circulation. The food should be light, consisting of gruel, arrow-root, milk, or weak broth: simple drinks may be taken freely, the best is pure water; alcoholic drinks should be avoided. Free action of the skin should be obtained by baths, and antimonial medicines; the kind of bath most agreeable, as well as efficient in promoting

perspiration, is the hot air; if this cannot be obtained, warm water must be substituted, care being taken that the patient be not kept in the bath after faintness or difficulty of breathing occurs.

There is no medicine more valuable in promoting the action of the skin than antimony. The antimonial wine may be given to an adult in doses of from fifteen to thirty drops, and repeated every four or five hours. Sometimes antimony may be combined with Dover's powder; this is admissible when the bowels are freely open, the urine not very scanty, and when there is no headache or drowsiness. In other cases, opium, in any form, would probably be injurious, on account of its tendency to check secretion and aggravate the symptoms of cerebral oppression. With the precautions before mentioned, and particularly when there is much restlessness, a combination of Dover's powder with tartar emetic may be useful; five grains of the former with one-sixth or one-fourth grain of the latter may be given twice or three times a day; or the same quantity of antimony, with eight or ten grains of Dover's powder, at bed-time. In every case we must take care that the bowels are kept freely open, this being one of the most important means of relieving the kidneys from over-work, and one which nature sometimes adopts by setting up a spontaneous diarrhœa. The degree in which the action of the bowels is to be excited must, of course, depend upon the nature and urgency of the symptoms. In ordinary cases, a moderate action is sufficient; but when any symptoms of cerebral disorder or of other serious mischief arise, the patient must be very freely purged, with the reasonable hope and expectation that by this means the poisonous cause of the mischief will be removed. A mixture which may be given with advantage, is the common white mixture of sulphate and carbonate of magnesia with peppermint water, and to this may be added the antimonial wine. Another very useful purgative is the compound jalap powder, which may be given to an adult in doses of a scruple or half a drachm, repeated daily, or on alternate days, so as to produce copious watery stools, or the compound extract of colocynth may be given, and it may occasionally be combined with calomel in doses of two or three grains. Great care, however, is necessary in the administration of mercury in all cases of renal disease, since patients suffering from these diseases are sometimes very speedily salivated by small doses, and such a result can scarcely have any but an injurious effect upon the malady. Mercury, therefore, when administered at all in these cases, should be given merely as an aperient, with a view of promoting the action of the liver and increasing the intestinal secretions, for which purpose it may be usefully combined with the colocynth, as before mentioned.

If the urine is scanty, albuminous and bloody, with occasionally severe pain in the back and head, some degree of drowsiness, or delirium; or if there be convulsions and coma, it is evidence that the brain is suffering from the poisoned condition of the blood, consequent upon the impeded function and vascular engorgement of the kidney. The

most effectual remedy in these cases, is cupping on the loins, to the extent of eight or ten ounces from an adult, or two or three from a child three years of age; this may be repeated if necessary; but as little blood should be taken as will relieve the symptoms. Venesection is rarely called for; if the scalp is hot, iced water may be applied, and in convulsions or coma, blood may be taken from the temples. The following case from the appendix to this chapter, shows the good effects of cupping under these circumstances:

E. S., æt 6, living at 19 Little Wild-street, where I attended her as a dispensary patient. She was seized with scarlatina about the 30th October, 1849. The symptoms were mild until the 16th November, when dropsy appeared in the face, and the urine was observed to be high colored and scanty. The child had always been rather delicate. She had not been exposed to cold since the attack of fever, but had been subject to the opposite though not less injurious influence of hot air in a small room on the ground-floor, which served as living and sleeping room for a family of five persons, and as a carpenter's work-shop for her father. On the 17th Nov., the urine was very scanty, turbid, and of a dirty greenish color, almost solid with albumen when boiled; it contained numerous epithelial casts with scattered epithelium and blood-corpuscles, also small crystals of lithic acid. In addition to the epithelial casts, there were a few large 'waxy casts.' Ordered a mixture of sulphate and carbonate of magnesia, with ten minims of antimonial wine, three times a day; an occasional warm bath. She continued the mixture until the 22d Nov, when, finding that the bowels were much relaxed, I substituted a solution of chlorate of potash in four grain doses every four hours.

On the 23d, I did not see her; but I afterwards learned that she began to complain of severe headache, which made her scream during the whole day; the urine was very scanty and high colored, and the bowels confined. About half-past six o'clock on the morning of the 24th, after a restless night, she was seized with a fit of general convulsions, which continued almost incessantly for about two hours. She foamed at the mouth and bit her tongue. When I saw her at half-past nine A. M., she was in a state of semi-stupor, and appeared much exhausted. The bowels had acted involuntarily during the fit. Ordered a cupping-glass over each kidney, and four ounces of blood to be taken, hydrarg. chloridi, grs. iij. every four hours. On the 25th, she was much better. She appeared relieved very soon after the cupping, and became more lively and cheerful; there has been no return of convulsions; the countenance is natural; has had three or four very dark-colored motions. The urine is more abundant, of a lighter color, and has much less sediment and albumen. Nov. 26th. She continues to improve; urine more copious; bowels freely open. Omit calomel, and take ten grains of jalap twice a day. Nov. 30th. Rapidly improving; appetite returned. Since the 24th, she had only taken milk and gruel, until yesterday, when she had some broth. Sleeps well; face pale, and very slightly

puffed. Urine more copious than in health, rather pale, slightly cloudy, with a very few casts and scattered blood-corpuscles; the slightest opalescence with heat and nitric acid. Dec. 7th. Continues to gain strength, appetite good, tongue clean, urine clear, no trace of albumen; after standing thirty-six hours, a rather abundant deposit of lithic acid. The last few days she has been taking tinct. ferri sesquich. three times a day. Dec. 27th. Continues well; urine quite clear from albumen.

Secondary inflammations are to be treated cautiously, without mercury or general bleeding, or remedies which, after entering the circulation, have a tendency to inflame the kidney—as counter-irritants, cantharides and turpentine—are to be avoided, and mustard or liquor ammoniæ substituted. When vomiting occurs in the commencement of an attack, it should not be checked by cold, but rather be promoted by warm drinks. Great care should be taken during the period of convalescence, that the patient commit no indiscretion in diet, or by exposure to a change of temperature. The beneficial effect of iron is established by experience; the citrate of iron combined with the citrate of ammonia, or the tinct. ferri sesquichloridi, may be given in doses of from ten to twenty drops in infusion of calumba. Gallic acid also may be given to check the drain of albumen which often persists after other symptoms have subsided; it may be given in doses of ten grains in solution with mucilage, and repeated three or four times a day. Dr. Johnson makes the following remark in regard to the use of diuretics: "With our present knowledge of renal pathology, it is clear that the practice of giving diuretics in acute nephritis, is most unjustifiable. I do not include digitalis in this condemnation, its action being entirely different from that of other diuretic medicines, and I have already advised its occasional use."

Chronic Desquamative Nephritis is characterized by "a long continued shedding of epithelium, which appears in the urine in a more or less disintegrated state." It may originate in an attack of acute desquamative nephritis, in which case its symptoms are prominent and attract early attention, or it may be chronic from the first, and pass insidiously and unnoticed into the gravest form of renal disease. The importance therefore to every physician of being familiar with the causes, symptoms, diagnosis and pathology of this affection cannot be overstated, especially as it is far more often chronic and consequently latent, both in its incipiency and progress. Familiarity with the use of the microscope is again absolutely necessary to an early and correct diagnosis.

So frequently is this disease associated with the gouty diathesis that Dr. Todd has called it the gouty kidney. Dr. Johnson, however, believes that it may be stated in general terms that "intemperance in drinking

is the origin of nearly all the cases of chronic desquamative nephritis, that in a few cases it may be traced to a previous acute attack of disease, and there will still remain a comparatively small number of cases which are connected with a derangement of the general health, the result either of an original weakness or unsoundness of constitution, or produced by the slow and long continued operation of such depressing influences as bodily or mental fatigue and anxiety, deficiency of nutritious food, lengthened confinement to bed by disease or accidental injury, or unwholesome occupations which involve a neglect of exercise and the breathing of impure air." The symptoms of this affection are thus given:

Chronic disease of the kidney is commonly preceded and accompanied by some of the following symptoms: a gradual loss of strength, with emaciation to a variable extent, in some cases being very great, while in others it is inconsiderable, or it is concealed by the anasarcous swelling of the body; defective perspiration, with a dry and harsh state of the skin, a peculiar pallid or sallow color of the skin and lips, or a blending of pallor with a dusky hue, depending on the original dark complexion of the patient. The tongue is sometimes dry, at other times moist and pale; there is commonly thirst with loss of appetite. The last symptom, however, is variable, the appetite being sometimes voracious; there is almost constantly flatulence, and sometimes gastric pain; not unfrequently, too, the patient is troubled with waterbrash, or with retching and vomiting, especially on first awaking in the morning; pain or a sense of weight in the head, and sometimes a tendency to drowsiness, are complained of. I have noticed one symptom so frequently in connection with renal disease, that I consider it worthy of mention, and that is bleeding from the nose.... It is probably a result of the morbid state of blood consequent upon imperfect renal excretion. Another symptom, somewhat analogous, and resulting probably from the same cause, is menorrhagia. Much more commonly, however, the catamenia are absent, a natural consequence, as it would seem, of the impoverished condition of the blood. Many of these symptoms are inconstant, and they may all be present when there is no renal disease; but they should excite to watchfulness and to a search for less equivocal signs.

Dropsy is an uncertain symptom; it may be slight and transient, a puffiness of the face on rising in the morning and slight swelling of the ankles at mid-day; or the case may terminate fatally without the occurrence of dropsy. The character of the urine affords the most accurate information of the nature and progress of the disease. If examined during the subsidence of a gouty paroxysm, the most favorable period for detecting the earliest changes, it will be found to differ but little from that passed in a state of health in quantity, specific gravity and color; but on microscopic examination the sediment is found to be composed of a scattered, amorphous, granular material, and the same material in the

form of cylinders which have evidently come from the renal tubes. This granular material is believed to be disintegrated epithelium, which having become detached from the basement membrane of the tubes, is washed out with the urine, some of it retaining the cylindrical form. These latter are therefore called "granular casts." In the second stage, albumen appears, attended by an increased quantity of disintegrated epithelium, the amount of the latter varying equally with the former, and both disappearing during the interval of the gouty attacks. In the later stages of the disease the urine is very abundant, of low specific gravity, and always containing albumen and disintegrated epithelium; the solid constituents are diminished, owing to the impoverished condition of the blood; the color of the urine is not important. When chronic nephritis originates in an acute attack, the secretion continues very abundant, with a decrease of color and density, the albumen persists, and the dense sediment still consists of granular casts, and scattered, amorphous epithelium. When the disease begins in a chronic form, unconnected with gout, it may make great and even fatal progress before it is detected, unless the urine be submitted to an early examination, when the appearances will be found as already noticed in the gouty diathesis. A fact of considerable importance may also be noted, viz., the absence of blood-corpuscles in the urine, a sign which so constantly attends the acute stage. Dr. Christison is our author's authority for the changes which the blood undergoes in this disease.

Of the secondary diseases which may supervene upon chronic inflammation of the kidney, one of the most frequent and important is dropsy. Anasarca is more common than dropsy of the serous cavities, and the former nearly always precedes the latter. Gastric disorders, as indigestion and chronic vomiting, are frequent and troublesome symptoms. MM. Bernard and Barreswil have shown that after extirpation of the kidneys of dogs the stomach and intestines contain large quantities of ammonia, which they consider the result of decomposed urea, eliminated by the intestines. This experiment may help to explain these gastric disturbances, and also the diarrhœa which sometimes occurs in the progress of the disease. Obstinate vomiting was noted by Frerichs in 11 out of 42 cases of Bright's disease. The slightest affection of the lungs which may occur is an œdematous effusion into the air cells causing dyspnœa; pneumonia is more frequently met in connection with acute than chronic nephritis. Tubercular disease has no necessary relation with this condition of the kidney. Chronic rheumatism associated with renal disease was first noticed by Dr. Christison, and though an obstinate is not a serious complaint. The most serious consequences of this form of nephritis are those connected with the cerebo-spinal functions.

So frequently do these symptoms occur, that the disease may almost be said to have a natural tendency to terminate in this manner. When convulsions or coma occur, as a consequence of acute nephritis, they are often developed rapidly; but, in connection with chronic renal disease, their approach is more gradual. There is first, perhaps, an unusual degree of drowsiness, with some dimness of vision or headache, and occasionally slight delirium: the drowsiness continues for some days, increasing gradually, and at length passing into complete stupor, with occasional attacks of epileptic convulsions, each of which is succeeded by more profound coma, which quickly ends in death. In other cases, after a slight degree of drowsiness or headache, the first alarming symptom is a sudden attack of convulsions, followed perhaps by delirium, and, after a longer or shorter interval, by a recurrence of convulsions, which may be repeated many times in the course of a few hours, the patient being in the interval either delirious or comatose—the latter condition almost invariably preceding the fatal termination. In other cases, the fatal coma is preceded by a sudden hemiplegic seizure, the attack having all the characters of apoplexy from cerebral hæmorrhage. Sometimes it is found that life has actually been cut short by sanguineous effusion into the substance or upon the surface of the brain; but in most cases there is the same absence of morbid appearances as in cases of acute nephritis, having a similar termination. In some instances there may be a doubtful congestion of the brain or its membranes; much more commonly an unusual paleness, with perhaps some serous effusion on the surface or in the ventricles: very rarely is there any pus or lymph, or other unequivocal product of inflammation.

There has been much speculation as to the cause of coma and convulsions in renal disease. It has generally been supposed that urea circulating in the blood was the poisonous agent; but the fact that cases containing the maximum amount of this substance in the blood may terminate fatally without the appearance of any of these symptoms, disproves this theory. Besides this evidence, Vauquelin and Segalas have injected urea into the veins of animals, and the only result obtained was an increased secretion of urine: when urine itself was injected, death ensued. Dr. Bence Jones remarks, that urea is probably not much more poisonous than nitrate of potash: he thinks it possible that the poisoning may be due to the accumulation of oxalic acid in the blood. Dr. Rees suggests, that a certain tenuity of the blood is necessary to the poisonous operation of the urea. Henlé explained these symptoms by supposing there may be a collection of watery fluid in the ventricles—an hypothesis not sustained by post-mortem examination. Dr. Johnson, however, favors the theory lately advanced by Frerichs, that the urea accumulated in the blood is converted, while yet in the vessels, by a peculiar ferment, into carbonate of ammonia. For the production of these symptoms he supposes two conditions necessary: 1st. An accumulation of urea in the blood. 2d.

The presence of a ferment by which the conversion of the urea into carbonate of ammonia may be effected. He has performed a number of interesting experiments to prove the correctness of this view, which, though they do not establish his theory, render the old doctrine exceeding improbable.

Dr. Bright early noticed the frequent coexistence of cardiac and renal disease, and what particularly attracted his attention was the frequency of hypertrophy without valvular disease or other assignable cause. He says, "the two most ready solutions appear to be, either that the altered quality of the blood affords irregular and unwonted stimulus to the organ immediately, or that it so affects the minute and capillary circulation as to render greater action necessary to force the blood through the distant subdivisions of the vascular system." Dr. Johnson adopts the latter of these explanations, as we have already seen. Hypertrophy in these cases he considers to be rather a favorable circumstance, as it is designed to overcome some impediment to the circulation. The most frequent form of disease of the liver, associated with chronic nephritis, is cirrhosis. "It seems probable that the two diseases are as closely allied as is consistent with the difference in the structure and functions of the organs concerned."

The morbid anatomy of chronic nephritis differs essentially from the acute; while the latter may leave the kidney as sound and efficient as it was before the attack, the former has a destructive influence upon the cells, and prevents their reproduction. The effect upon the tubes of this destruction of their epithelium is most commonly a gradual wasting, on account of which the surrounding tissues collapse, and bring the Malpighian bodies closer together. Or, on the contrary, they may become dilated, attended with a secretion of serum into their cavities, and form the cysts which are often visible to the naked eye, and "are amongst the most frequent results of chronic inflammation of the kidney." It should be stated here that Simon, and after him Paget and Rokitansky, give a different explanation of the origin of these cysts. They suppose that, in consequence of the tubes becoming blocked up, the limitary membrane is ruptured, and the cell growth then becomes parenchytic instead of intra-mural. Dr. Johnson opposes very plausible arguments to this theory, but the whole subject is involved in doubt, and all explanations are at present conjectural. The denuded tubes may be filled with an unorganized albuminous, or fibrinous material, or oil, or, finally, serum. The former constitutes the large waxy casts. The external appearances of the kidney depend upon the condition of the tubes. The changes which the vessels undergo, are thickening of the walls of the arteries, and capil-

laries of the Malpighian tufts, and atrophy of the veins and intertubular capillaries.

Dr. Johnson considers at length the proximate cause of albuminous urine and dropsy; his views, however, may be briefly stated. From certain experiments of Dr. John Reid, it appeared, that the first effect of suspended respiration was an impeded circulation in the systemic capillaries, giving rise to a distention of the arteries, and next the same condition of the pulmonary capillaries, resulting in an accumulation of blood in the left side of the heart. Immediately that respiration is restored, the circulation in the pulmonary system returns, and soon after, also, the remote systemic circulation. It is concluded, therefore, that when blood is charged with matters which the lungs normally separate, it circulates with difficulty through the capillaries, because that vital attraction which exists between the tissues and the circulating fluids, either for nutrition or secretion, is impaired, or, perhaps, destroyed. "Assuming that the renal circulation is effected by an imperfect elimination of the urinary constituents, in a manner analogous to that in which the pulmonary circulation is influenced by the retention of carbonic acid in the blood, we should expect to find that the circulation would first be retarded in the intertubular capillary vessels. The obstruction, which would be in proportion to the extent of morbid change in the contiguous tubes and cells, would exert an influence, extending backwards in the order of the circulation, so that the Malpighian capillaries, and the arteries which supply them, would become gorged with blood; this engorgement being exactly analogous to that of the right side of the heart, and of the venous system in animals after death from asphyxia." The result of this engorgement is the escape of serum, or in the acute stage it may end in rupture of the Malpighian capillaries, and the escape of blood into the tubes. This explanation of the proximate cause of albuminuria, is rendered probable by the experiment of Dr. Robinson, who obtained the same results upon ligating the renal vein of a rabbit. Frerichs repeated this experiment, and in addition to albumen and blood in the urine, found fibrinous casts of the kidney tubes. The dropsy of renal disease is in like manner supposed to depend upon the impeded circulation in the systemic capillaries, consequent upon the retention of excrementitious matters in the blood.

The *diagnosis* of chronic nephritis in its early stage must be made, as we have seen, by a microscopic examination of the urine. The *prognosis* will depend upon the stage of the disease, its rate of progress, its secondary consequences, and finally, its causes. The object to be

kept in view in the *treatment* of chronic nephritis is "the adoption of means for the removal of that morbid state of the blood, and of the constitution generally, of which the renal disease is only a secondary consequence and a manifestation." When complicated with the gouty diathesis, we should endeavor, as far as possible, to prevent the increase of the gouty poison, and to favor the elimination of that contained in the blood. The first object is to be obtained by the careful regulation of the diet; the second by strict attention to the excretory functions. Dr. Prout justly remarks in regard to the former: "All the barbarous crudities which a vitiated appetite or depraved taste has introduced into modern cookery, should, without exception, be avoided; for whatever affects the stomach is sure to exert an unfavorable influence on the urinary organs. It is impossible to lay down rules which shall be universally applicable; but if the patient confines himself to mutton, poultry, and some of the lighter kinds of fish, among animal matters; and of farinaceous substances, such as bread, rice, sago, &c., together with the occasional use of the lighter herbaceous or leguminous substances, he can scarcely go wrong. In most cases, also, it will be proper to abstain from sugar." Fermented liquors should be abstained from. Care should be taken to avoid exposure to cold, and for this reason flannel should be worn next to the skin throughout the year. Exercise should be gentle, in suitable weather, on foot or on horseback, or in an open carriage; voyages at sea have proved especially beneficial. Mild purgative medicines should be given to regulate the bowels, as the compound colocynth pill with the acetous extract of colchicum; or ten drops of the wine of colchicum in a mixture of the sulphate and carbonate of magnesia may be given once or twice daily. Dry cupping over the loins, when there is pain with scanty and high colored urine, is useful, and preferable to the use of wet cups. Cantharidine blisters and turpentine are to be avoided as counter-irritants. The use of some preparation of iron is especially indicated. Dr. Johnson prefers the tincture of the sesquichloride.

The free acid which it contains appears often to exert a beneficial influence upon the stomach, giving tone to the organ, and relieving the dyspeptic symptoms which are amongst the troublesome accompaniments of renal disease; the medicine, when absorbed, tends to restore to the blood its coloring matter, and, in passing through the kidneys, it appears to exert an astringent influence and to check the drain of albumen. Its last-mentioned astringent effect renders it inapplicable when there is great congestion of the kidney, with a scanty secretion of urine. It may be given, as before recommended, in infusion of calumba, or occasionally in combination with tincture of digitalis. It

may sometimes be desirable to give iron in larger doses than could be administered in the form of the tincture; this may be done by giving the sulphate in doses of two grains, made into two pills, with extract of gentian, and a grain or two of powdered ginger—a dose which may be given, after a meal, two or three times daily.

Dropsical effusion, one of the most frequent distressing consequences of renal disease, depends for its cure upon the restoration of the normal function of the kidney. The most efficient, as well as safest method of removing it, is by the employment of purgatives; and for this purpose those should be selected which produce copious watery stools. The elaterium often affords great relief, given in doses of from one-eighth to one-fourth of a grain, in the form of a pill with some aromatic. In these cases Dr. Golding Bird has found an abundance of urea in the evacuations. Dr. Christison employs gamboge more frequently than any other purgative, in doses of five grains, two or three times daily. The hot air bath and diaphoretic medicines may be used to promote cutaneous transpiration. Diuretics should not be used unless the urine is scanty, and other measures have failed to remove the accumulated fluid. In these instances such diuretics must be selected as stimulate the kidneys in the least degree, and those originally recommended by Dr. Bright, viz., digitalis and cream of tartar, are preferable. "The action of these medicines appears to be more certain when given simultaneously, than when separately exhibited. The digitalis may be given in doses of ten or fifteen minims of the tincture three times daily, in an ounce of cinnamon water, or the infusion of the same substance in doses of from two to six drachms with cinnamon water. The cream of tartar may be given thrice daily, in doses of from one to two drachms, in five or six ounces of water, so as to insure its absorption; with a smaller quantity of water, and sometimes even without the condition of concentration, the cream of tartar acts as a hydragogue purgative, to which, however, there is no objection, unless when there is a tendency to obstinate diarrhœa." Mercury may be given only when it promotes diuresis. Dr. Christison has employed digitalis externally with the effect to excite a copious discharge of urine; he employed a strong infusion, an ounce of the powdered leaves to twenty ounces of boiling water, which he applied over the abdomen. When all other means have failed to relieve the dropsy, slight punctures may be made in the skin as recommended by Dr. Watson. The gastric symptoms and diarrhœa are to be relieved by the careful management of the diet, and such mild remedies as the case seems to require. The treatment of cerebral disorders does not differ from that noticed as occurring in acute nephritis. Frerichs, believing

that the poisonous agent which causes the coma and convulsions, is the carbonate of ammonia resulting from the decomposition of the urea in the blood, recommends the use of hydrochloric and vegetable acids, which enter the blood, and would in this case form harmless compounds with the ammonia. He would administer large doses of benzoic acid, and advises the use of vinegar lotions and enemata.

In conclusion, Dr. Johnson would have us remember "that the various secondary diseases to which allusion has been made, have a common origin, and that although, in attempting to cure or alleviate them, it is sometimes necessary to apply remedies to each singly, yet this should never be done in forgetfulness of the bond of union which exists between the secondary diseases themselves, as well as between them and the primary disease. Without this guiding pathological principle, we might, more frequently than is necessary, aggravate one disease in our endeavor to remove another, or fail to relieve a particular disorder by treating it as merely local mischief, when a better pathology would have indicated a distant part as the source of the evil, and the part to which the remedies should be directed."

We have thus passed in review the most important chapters of Dr. Johnson's work, and endeavored to give concisely the views therein expressed. These chapters constitute three-fifths of the volume. In the remaining portion he treats of *Waxy Degeneration of the Kidney; Non-Desquamative Disease of the Kidney; Fatty Degeneration of the Kidney; Suppurative Nephritis; Tubercular or Scrofulous Disease of the Kidney; Cancer of the Kidney; Hæmaturia.* It would be interesting to continue the analysis of these subjects, but we have already exceeded our prescribed limits, and must conclude. The great defect of Dr. Johnson's work is the absence of facts on which to base his reasoning; we are constantly urged to accept explanations and conclusions whose only data are hypotheses, assumptions, and probabilities. Perhaps in the present state of renal pathology these uncertainties are unavoidable, in attempting to explain the phenomena of the diseases of the kidney, although they detract greatly from the practical value of a treatise upon this subject. A book, however, is not to be condemned on account of such defects as these, for though they may deprive it of interest and advantage to the practitioner, nevertheless, they will stimulate to renewed inquiry and research into the secret operations of disease, which must result in the development of important truths and principles leading to rational practice. We cannot better express the conviction forced upon us in our examination of the theories which form the substratum of this work, than by quoting the very sensible conclusion

of the author himself, in regard to Frerich's opinion of the decomposition of urea into carbonate of ammonia, by a peculiar ferment in the blood: "But he has no knowledge of the nature of this supposed agent, and there is here a hiatus in his observations, all of which will require repetition before the theory which is based upon them can be admitted amongst the established doctrines of pathology."

ART. VIII.—*Proceedings of the Medical Association of the State of Alabama.* Mobile: 1851, 8vo. pp. 156.

Transactions of the Medical Society of the State of Pennsylvania, Vol. II. Philadelphia: 1852, 8vo. pp. 146.

Transactions of the Medical Association of the State of Missouri. Vol. II. St. Louis: 1852, 8vo. pp. 116.

Transactions of the Medical Society of Virginia. Richmond: 1852, 8vo. pp. 62.

Transactions of the Medical Society of the State of Gorgia. Penfield: 1852, 8vo. pp. 100.

Transactions of the Illinois State Medical Society. Peoria: 1852, 8vo. pp. 94.

Transactions of the Kentucky State Medical Society. Louisville: 1853, 8vo. pp. 333.

Report on Kentucky Surgery, &c. By S. D. GROSS, M. D. Louisville: 1853, 8vo. pp. 194.

Transactions of the Medical Society of the State of New-York. Albany: 1853. 8vo. pp. 349.

Registration of Births, Deaths and Marriages. By FRANKLIN TUTHILL, M. D. Albany: 1853. 8vo. pp. 21.

Communication presented by JOHN MCCALL, M. D., of Utica, at the Annual Meeting of the Society. Albany: 1853. 8vo. pp. 9.

The Claims of the Medical Profession. The Annual Address delivered before the New-York State Medical Society. By A. CLARK, M. D., President of the Society and Professor of Physiology and Pathology, in the College of Physicians and Surgeons of the State of New-York. Albany: 1853. 8vo. pp. 24.

THE rapid increase of State, County, and Voluntary Medical Societies within the last two or three years, in all parts of the country, is gratifying to witness. It is the most cheering evidence that the great body of the profession is beginning to recognize, that in unity of feeling and unity of action lies its true power and greatness. Hitherto accustomed to seek from State governments, protection from evils without,

and remedies for evils within, it has now come, after years of bitter experience of their inability, as well as indisposition to meet its necessities, to trust its existence to its inherent vitality, and its protection to its strong right arm. Thus emancipated from the clogs of legislation, its forces organized, and its power centralized, we may anticipate, not unreasonably, that the future history of the medical profession of this country will be marked by a steady progress towards the exalted and honorable position in the public confidence which characterized its early existence.

In this important movement we recognize the first ripe fruits of the American Medical Association. Prominent among the objects which this society has steadily attempted to effect, has been the thorough organization of the profession of the entire Union into local societies. In this particular, could we mention no other, this association has accomplished much for the medical profession of this country. And it is gratifying to notice with what alacrity these newly formed societies rally to the support of our great national medical congress, embrace its views, and strive to carry out its recommendations.

In our notice of these transactions we shall be compelled to limit ourselves to subjects of general interest.

The *annual addresses* of the several presidents of the State Societies form not the least interesting portion of these volumes. The subjects selected all lead to the discussion of matters pertaining to the highest interests of the profession, and the opinions advanced are eminently progressive in their tendency. Dr. A. Clark, of N. Y., presented *The Claims of the Medical Profession* to the members of the State Medical Society, at its annual meeting in February last, and according to an ancient and honorable custom, also to the members of the State Legislature. We need scarcely add that this address is a chaste, elegant and truthful production, and that the subject was admirably suited to the occasion. No one could have been selected better qualified to lay the claims of the medical profession before that honorable body under whose auspices our State Medical Society has attained the respectable age of nearly half a century, than its late distinguished president. This address has been issued in pamphlet form, and we are glad to learn that it has been widely distributed.

Dr. Lopez, of Alabama, discoursed on *Quackery* in a most acceptable manner; Dr. Campbell, of Geo., spoke of the *Difficulties and Privileges of the Medical Profession;* Drs. Innes, of Pa., Thomson, of Ill., McPheeters, of Mo., and Wellford, of Va., discussed subjects relating to medical reform and medical organizations. We cannot speak too highly of the views advanced in these discourses; and, elevated as

they are, we believe the voice of the profession will sustain them,—a voice that is soon to have a powerful utterance through these local societies. We may particularize, not invidiously, the address of the accomplished president of the American Medical Association, the sentiments of which were repeated at the late anniversary of that society in this city, and were received with universal satisfaction. Dr. SUTTON, of Ky., addressed the society of that State, on *Our duty to the profession and to the community in which we live.*

Registration.—The importance of the passage of Acts of Registration by the several State governments is beginning to be realized by the profession, and through its exertion several States have recently passed such bills, and in many others efforts are being made which will insure eventually their general adoption. In the State of New-York such a law was enacted in 1847, but its operation has been greatly embarrassed by some internal defects not difficult to remedy, and the determined opposition which it has met from certain political influences. In a very able paper on *Registration of Births, Deaths and Marriages*, by FRANKLIN TUTHILL, M. D., of New-York city, published in the Transactions of the Medical Society of this State for 1853, we have a fair and impartial consideration of the advantages of registration. Dr. Tuthill, by his legislative experience as a former member of our State Legislature, was admirably adapted to the discharge of his self-imposed task. In his paper he has presented with signal ability the claims of this law, properly revised, which now stands a dead letter on our statute books, to the support of, and enforcement by the Legislature. We are glad to see this paper in a pamphlet form, and trust that through this medium it will have a wide circulation, and effect that change in public sentiment so necessary to the practical working of this important law.

Practical Medicine.—The only report on *Practical Medicine* was made to the State Society of Ill. by Dr. N. S. Davis, of Chicago; papers however on subjects relating to practice appear in several of these Transactions. The interesting report of Dr. Davis considers, first, the *Improvements effected in the management of individual disease;* and second, *The progress of Epidemics.* Under the former head we may notice the use of *common salt* as a remedial agent. Prof. Herrick reports several cases (*N. W. Med. and Surg. Jour.*) of intermittent fever, in which he employed this remedy with success; he gives it in doses of two drachms repeated two or three times daily. Prof. Davis has used this agent in fever, but not with the uniform success of quinine; he says, "those cases in which it has seemed particularly applicable have been characterized by obtuseness of the organic nervous sensibility, with but little excitement of the vascular

and secreting systems." Dr. Dugas, in an article on the use of *Certain New Remedies*, in the *Transactions of Ga.*, states that he has used common salt in two cases of intermittent fever; in one it was successful, only one chill having occurred after its use; the other case was complicated with phthisis, and as the salt increased the diarrhœa, he was obliged to discontinue its use. Dr. Dugas also advised its use in acute dysentery, "when the high febrile excitement contra-indicated the immediate resort to anodyne enemata; and when the administration of these failed to give relief. In the early and high febrile stage, it will often subdue the fever and tenesmus most admirably, and the patient will rapidly recover." He gives a teaspoonful of salt in a cupful of water, repeated every three or four hours until the stools pass freely without tenesmus. Prof. Davis has used *Extract of Beef's Blood*, as recommended by Von Mauthner in anæmia, with success. The preparation of this article is simple, consisting of the evaporation of the coagulated blood to dryness by a moderate elevation of temperature; it may be given in doses of ten to sixty grains in the form of powder, or dissolved in water. Prof. Evans (*N. W. Med. and Surg. Jour.*)' advises the use of *cod liver oil in nursing sore mouth.* He says, "when the patient can be induced to continue its free use it has uniformly proved beneficial, and in most instances effected a cure." Dr. Anderson, of Mobile, contributes to the *Transactions of Ala.* a very elaborate article on *Clinical facts relative to the administration of cod liver oil.* He bases his observations upon a large number of cases of a variety of diseases, such as phthisis, chronic bronchitis, organic disease of the heart, chronic diarrhœa, cystitis, &c., in all classes of which he derived favorable results. The second division of the report Prof. Davis devotes principally to a history of cholera as it prevailed in Chicago in 1837.

Of the papers on medical subjects, we notice in the *Transactions of Mo.* an *Essay on Erysipelas*, by Dr. J. P. Vaughan, and a communication on *Bilious Fever*, by Dr. H. Schœneich; in the *Transactions of N. Y.*, *Observations on the Pathology of Bright's Disease*, by Dr. J. A. Swett, Physician to the New-York Hospital, and a *Report on Diphtheritic Croup*, by Dr. Morgan Snyder.

The paper of Dr. Swett deserves more than a passing notice. It consists of the report of seven cases of Bright's disease, which are intended to give "the results of microscopic observation during life and after death as tending to confirm or weaken the new views that have been recently published on Bright's disease." The new views referred to are thus stated: "*First*, that the different varieties of what is called Bright's disease, all have their first local manifestation in the secreting cells of

the tubuli. *Second*, that the best marked variety of this disease, the granular kidney of Dr. Bright, is a fatty degeneration of the secreting cells of the kidney." In the first three cases, which were well-marked examples of Bright's disease, the kidneys exhibited an abnormal deposition of fat in the secreting cells on post-mortem microscopical examination. In but one of the seven cases were the secreting cells of the kidney found in the urine during life loaded with fat. This patient was relieved of his dropsical condition by eating tomatoes, which increased greatly the quantity of urine and produced copious watery evacuations from his bowels. The result of Dr. Swett's investigations tends to strengthen the new views above given, but to negative the opinion that the microscopical examination of the urine always reveals the fatty state of the kidney.

Surgery.—In several of these volumes we find reports on Surgery by special committees, and in others papers on surgical subjects. Of the former are the reports of Dr. Campbell, of Ga., Dr. Pope, of Mo. and Dr. Gross, of Ky.; the first two being devoted to the progress and improvements in surgical science, while the latter is a voluminous but exceedingly well written history of surgery in the State of Kentucky. We congratulate the profession of this gallant State on the success which has attended their organization of a State Society, and on this praiseworthy vindication of their ancient honors by a member so well qualified to do justice to their claims.

It has long been settled that the first operation for *Ovariotomy* was performed by Dr. McDowell, of Ky. Dr. Gross is led to believe that the same surgeon performed this operation not less than thirteen times, and with a degree of success nearly equal to that which has since attended it. This operation has been repeated several times in Kentucky by other gentlemen, and once, but unsuccessfully, by the reporter. Dr. Gross appends a lengthy and highly interesting history of Dr. McDowell. The next subject which Dr. Gross introduces, is *Affections of the Head.* The first operation of trephining for the relief of epilepsy he attributes to La Motte, in 1705; in this, however, we believe he is in error, for the operation is alluded to by some of the earliest writers (*N. Y. Jour. of Med.* Vol. VIII. [N. S.] p. 220).

The details of Dr. Dudley's cases, which first directed the attention of surgeons in this country to the subject, are given, and also those of Dr. Hardin, published in 1852. Dr. Campbell, of Ga., reports a case of traumatic epilepsy occurring in the practice of Dr. Quintard, which was promptly relieved by trephining. Dr. Pope, of Mo., also reports a similar case in which he trephined with partial success.

The next important operation for which Dr. Gross justly claims the

pre-eminence of Kentucky surgery, is *Lithotomy.* The whole number of cases of lithotomy, positively known to have been performed in that State, amount to 366; of these Dr. B. W. Dudley performed 207; Dr. Goldsmith, now of this (New-York) city, 50; Dr. Gross 30. The success, which has attended this operation in Kentucky, we believe, is unparalleled. Dr. Gross gives at some length the history of lithotomy and calculous diseases in that State, and also a summary of the valuable paper of Dr. Peter, of Lexington, on the chemical analysis of the vesical calculi, contained in the Medical Museum of Transylvania University. Dr. Eve, of Ga., reports the history of twenty-five cases of lithotomy, with remarks of an interesting and practical character. His report has already appeared in this Journal.

In his section on *Affections of the Arteries*, Dr. Gross speaks of the great infrequency of spontaneous aneurisms in the Southwest, and this seems to be the general testimony of the surgeons of that region. The history of ligature of arteries by Kentucky surgeons is considered at length, with reports of cases. Dr. B. W. Dudley was the first to ligate the subclavian artery, in 1825; the operation was undertaken for axillary aneurism, and was successful. Dr. Goldsmith, now of New York, operated successfully in 1832, for a large traumatic aneurism. Dr. Gross performed the third operation in 1841, also for traumatic axillary aneurism: his patient died, however, upwards of a month after the operation, from the bursting of the sac into the thoracic cavity. The Transactions of our own State contain a very valuable statistical paper on the ligature on the subclavian artery by Dr. Van Buren, of New-York city, in which some very important deductions are made as to the portion of the artery most favorable for the operation, and interesting comparisons of the fatality of the operations for different diseases, and also on other, but corresponding arteries. The paper derives additional interest from the relation of a case of successful ligature of the subclavian artery for a diffuse aneurism of the brachial artery, which occurred in his own practice. Dr. Dudley treats aneurism at the bend of the arm with compresses and bandages, and reports a number of successful cases; Dr. Gross, however, does not admit his claim to originality in this mode of treatment. In a subsequent section, Dr. Gross treats of *The Bandage, considered as a Therapeutic Agent*, and gives prominence to the views of Dr. Dudley, who first brought to the notice of the profession the extensive use of this appliance in surgical practice. Under the head of *Amputations* we have a brief but interesting history of Dr. Brashear, a native of Kentucky, but now of New Orleans, who was the first to amputate at the hip-joint, in this country. In the section on *Exsections*, Dr. Gross sets

forth the claims of Dr. Charles McCreary, of that State, to the honor of having successfully removed the *entire* clavicle, as early as 1813, sixteen years before the similar operation of Dr. Mott, which has hitherto been entitled to priority. It is not a little remarkable that rival claims to priority in the performance of two of the most brilliant operations in surgery, which the world had long conceded to Dr. Mott, and which has added not a little to his world-wide reputation, should be set up by two Kentucky surgeons, in the one case nearly half a century, and in the other thirty-eight years after their alleged performance. Dr. Gross closes his elaborate report, which we have but briefly noticed, with the history of the medical profession of the city of Louisville. This report has very properly been issued in a separate form, and makes a respectable volume of nearly two hundred pages.

Obstetrics.—Reports on obstetrics were made to the State Societies of Missouri and Kentucky, and the *Transactions of N. Y.* contain a paper on the *Effects of Chloroform upon the Symptoms and Progress of Labor*, by Dr. G. N. Burwell, of Buffalo. The former report was drawn up by Dr. Pallen, of St. Louis, the latter by Dr. Miller, of Louisville. These reports are devoted to the consideration of some of the recent improvements in the obstetric art. The use of anæsthetics is advocated in painful and protracted labors, and in operative midwifery. In ordinary labors, Dr. Pallen thinks "there can be no urgent reasons to use it;" Dr. Miller, however, not only believes that it will be found to lessen the mortality in midwifery operations; but, he continues, "we may advance a step further, and venture to predict that chloroform, administered in natural parturition, may sensibly curtail it of the mortality incident to it, independently of any operative procedures on the part of the accoucheur; so that in an equal number of cases of natural labor, treated with or without chloroform, fewer of the former will die in childbirth than of the latter." Dr. Pallen has seen relaxation of the soft parts from the use of chloroform, which could not be obtained by bleeding, opium, or tartar emetic. Dr. Burwell has never noticed such effects fairly attributable to chloroform. Dr. Miller administers it upon a handkerchief, at first only as a *benumber* of pain, but towards the close of labor he gives it more freely.

As this is a subject of much importance, especially when this remedy comes to be recommended in ordinary labors, we cannot do it better justice than to give briefly an abstract of Dr. Burwell's paper, which is based upon an analysis, 180 cases occurring in his own practice. The first section is devoted to an examination of these statistics. Of the whole number, relief was decided in 122, relief moderate in 55, no relief

in 3; longest period of continuous administration 14¾ hours, average 1 hour; forceps applied 17, craniotomy 1, turning 1, first labor 1, still-born 14, flooding 7; inflammation, recovered 5, died 1; bad health after confinement 25. In the first class of cases anæsthesia was complete in 37, in the remainder the pain was always greatly diminished, and occasionally abolished. In the second class the chloroform was either not called for by the patient, or was given but a few minutes near the conclusion of the labor, or finally the patient expressed too much relief to entitle their words to confidence. Of those which derived no relief, the first could not be brought under its influence easily, the second could not inhale it freely, the third was delivered before its effects were experienced. The case requiring its long continuance was a delicate woman with her first child, and had been 2½ days in labor, she required but little to render her unconscious, taking in all but three ounces; the labor was completed with the forceps. In the 17 forceps cases, 5 were rendered insensible, 4 not insensible, 8 were complicated or difficult, and the chloroform was discontinued during the operation. In the case of craniotomy it was also discontinued during the operation. The case of turning was more easily accomplished than ordinarily in the writer's experience. The fact that 88 of the whole number of cases were primiparæ, Dr. Burwell thinks, is sufficient evidence that in the choice of cases for the use of the remedy, he has been governed solely by their tediousness and severity. The analysis of the 14 cases of still-births assigns to other causes than chloroform the fatal results. Of the 7 cases of flooding, 3 occurred before the delivery of the placenta, and 4 from want of proper contraction of the uterus—all recovered. Of the 6 cases of hysteritis 1 died; the only case which has proved fatal in his experience after taking chloroform; the others all recovered. Of the 25 cases which suffered from poor health after the use of chloroform, Dr. B. remarks: "My own opinion is that in not one of these instances ought the ill health to be charged to the use of chloroform."

In the second section, Dr. Burwell considers, *The effects of Chloroform upon the Symptoms and Progress of Labor.* Its effect upon the mind may be to quicken sensibility, or dispose to drowsiness, sometimes when the patient has seemed to retain her consciousness of every thing transpiring about her, it has afterward appeared that she was really totally insensible to her condition. The "cries of pain" are not safe guides as to the extent to which anæsthesia should be carried, for they are often made though the patient is really insensible to them. The effects of chloroform upon the muscular system are various; in large doses it occasionally suspends the use of the voluntary muscles,

while the labor is safely and efficiently completed by the uterus alone. In one case, on the contrary, it so manifestly controlled the uterine pains, that it was necessary to discontinue its use. The pulse was generally uninfluenced by the chloroform; in one case, however, it suddenly rose from 100 to 140 per minute, preceded by a chill; violent reaction came on, but in a few hours the fever subsided, pulse fell below 100, and she convalesced with no other unfavorable symptom. An occasional effect of chloroform upon the respiration was to render it slow and irregular, while the pulse continued unaffected.

If the inhalation is continued after this effect upon the respiration is observed, the pulse fails, which symptom Dr. B. regards as fatal. For this reason, he considers the respiration a better guide in the use of the remedy than the pulse. It appears, however, from the recorded cases of deaths from this agent, that the pulse often entirely disappeared, while the respiration still continued, (*See Table of all the recorded cases of Death from Chloroform in N. Y. Journal of Medicine*, May, 1853,) while in more than one instance we have known recovery to follow the entire failure of the pulse.

Dr. Burwell has never observed the dilatation of the os uteri and perineum, fairly attributable to the effects of chloroform; in many cases this process has been rapid, but in others the labor has been tedious from rigidity of the soft parts. He has never seen it cause any serious headache, but in one instance it relieved a headache, of which the patient complained more than her labor pains. He has never employed it in puerperal convulsions.

In the third section, Dr. Burwell gives *Rules for the use of Chloroform in Midwifery, with the dose and mode of Administration.* He advises to discontinue the remedy, when there is the slightest delirium manifested; when the cry from pain is changed to moaning; when there is quiet sleep during the intervals of the pains; when there is diminished action of the muscular system; and never to exceed five drachms an hour. The following are the contra-indications to its use; irregularities of pulse or symptoms of disease of the heart; plethora; diseased lungs; difficult inhalation; prospect of difficulty and danger; retardation of labor from a large or locked head; rapid and forcible pains in last stage; objections on the part of patient or her husband. The chloroform is administered from a small sponge in a cup-shaped piece of oiled silk; the patient is placed in a recumbent position, and the following doses given according to circumstances:—1. Fifteen or twenty drops, a small dose; 2. Thirty drops, the ordinary or medium dose; 3. A fluid drachm, the full or extraordinary dose. The sponge is held so as to admit air freely; the time chosen for exhibiting the remedy, is on

the approach of each pain, the patient having been instructed to give notice of this event, and only sufficient is employed to obtund the severity of the pain. The limit to which Dr. B. would carry anæsthesia is thus stated: "Allow a nearer approach to insensibility, so as to cover cases of partial or momentary loss of the mental faculties, and which would include, as a consequence, cases of an occasional obscuration of the faculties by drowsiness; cases of moderate temporary delirium, and cases of a slight prolongation of the interval between the pains.

We have given at some length the material facts of Dr. Burwell's paper, because founded on statistics collected from his own practice. The subject is treated with great candor and impartiality, and the constant vigilance with which he guards against evil effects from the remedy, and "even the appearance of evil," gives to his paper great practical value. We have little fear of unfortunate results from the use of this powerful agent when employed in the cautious and limited manner recommended by Dr. Burwell.

In addition to the subjects which we have introduced, we may notice reports on *Medical Botany*, in the *Transactions of Ky. and Ala.; On Empirical Remedies* in the *Transactions of Ga.; On the Domestic Adulteration of Drugs and Medicines*, by Dr. Reyburn, of Mo., an ably written paper filled with startling facts in regard to the adulteration of drugs. The *Transactions of N. Y.*, besides the papers already noticed, contain a very instructive article on *Statistics of the Deaf and Dumb*, by Dr. Peet, President of the Institution for the Deaf and Dumb, in New-York City; *A reply to the Strictures of Dr. Peet, on a report on Deaf and Dumb Institutions*, by Dr. P. Van Buren: *A communication* presented by Dr. McCall of Utica, which has been issued in pamphlet; the *Annual Addresses* before the Albany and Cortland Co. Medical Societies by their respective presidents; and finally a lengthy paper by Dr. Thomas Spencer, on *The Atomic Theory of Life and Vital Heat.* The length of this analysis forbids our noticing more at length some of these papers, and especially the latter, which evinces great labor in its preparation. We had the pleasure of listening to Prof. Spencer's explanation of his Atomic Theory of Life at the semi-annual meeting in this city, last year, and, although he was unable for want of time to examine it at length, we were struck with the originality of thought, and the close reasoning which it exhibited. Although not prepared to give an opinion as to the real merits of the theory, we may say that in the leading ideas are recognized the same beautiful adaptation of chemical and vital laws to the purposes of animal and vegetable life, which nature exhibits in other chemical and vital processes perfectly demonstrable.

BIBLIOGRAPHICAL NOTICES.

ART. IX.—*Elements of Health, and Principles of Female Hygiene.* By E. J. TILT, M. D., Senior Physician to the Farringdon General Dispensary and Lying-in-Charity, etc., etc. Philadelphia: Lindsay & Blakiston, 1853.

THE importance of a general diffusion of knowledge relating to the laws of health has long been recognized by the profession, and works of this kind have engaged the attention of some of the ablest medical writers. In this list appear the names of Drs. James Johnson, Andrew Combe, A. T. Thomson, Mayo, and Southwood Smith. The works of Dr. Combe, especially, have obtained a wide circulation in this country, through the medium of the school and family libraries, and are read by parents and children with great profit.

But while these authors have devoted their works principally to the diseases of man, Dr. Tilt, with characteristic gallantry, has addressed himself exclusively to the diseases of woman. From an examination of this volume we are satisfied that it is not inferior to any of its predecessors as a work well adapted for popular instruction. The style is easy and familiar, but sufficiently didactic, and the lessons taught are eminently judicious, such as mothers would do well to learn and impart to their daughters. We hope this work will find its way into every family, satisfied that it will dispel many false and even barbarous notions which ignorance nurtures through every grade of society, and render many of the physician's duties far less irksome, by giving him intelligent and tractable patients.

ART. X.—*The Principles of Botany, as exemplified in the Cryptogamia.* For the use of schools and colleges. By HARLAND COULTAS. Philadelphia: Lindsay & Blakiston.

THIS little *brochure* is designed to illustrate the principles of botany by exhibiting the structure and mode of growth of the lowest forms of vegetable life. The first part considers the *simple elementary organs of plants;* the second, the *compound organs of plants*, as exemplified in the cryptogamia or flowerless plants. The author presents his subject in a simple but attractive style, which cannot fail to entice the young student to the pursuit of this most delightful of all the natural sciences.

ART. XI.—*A Clinical Phrase Book*, in English and German; containing the usual questions and answers employed in examining and prescribing for patients, etc., etc. By MONTGOMERY JOHNS, M. D. Philadelphia: Lindsay & Blakiston, 1853.

THIS work grew out of the embarrassment experienced by the author, in common with others, in the pursuit of clinical studies, and is designed to facilitate the intercourse of the physician, both in attendance upon our hospitals and in private practice, with his German patients. Every one who has had to do with hospital practice, will, we are persuaded, appreciate duly the motives of the author in the preparation of this work. It is well adapted to the purposes for which it was designed, and in view of the rapid increase of the German population, must soon supply a desideratum in many a practitioner's library.

ART. XII.—*The Obstetric Catechism; containing two thousand three hundred and forty-seven Questions and Answers on Obstetrics Proper.* By JOSEPH WARRINGTON, M. D. With one hundred and fifty Illustrations. Philadelphia: Edward Barrington & George D. Haswell. 1853. 12mo., pp. 445.

THIS is in many particulars a clever little volume and well designed to aid students in the prosecution of their studies in the Obstetric department of the Science of Medicine. Of Dr. W.'s capabilities for the preparation of this catechism, we have ample evidence in the position which he occupies in the Obstetric Institute of Philadelphia, as well as in the character of his former contributions to medical literature.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

Failure of Vaccine. By J. A. Hingeston, Esq.—The frequent failure of vaccination is now so generally admitted, that statistical proofs are not requisite in order to establish its truth. People look upon it as an equal chance, whether those who have been vaccinated shall be able to resist an attack of the small-pox or not, should they be exposed to it; while some go so far as to surmise, hastily and rashly enough, that vaccination is all but useless. A few vote for a return to the old variolous inoculation; and a few, still more inconsiderate, boldly declare themselves in favor of the small-pox itself, as the only and the surest guarantee of their safety. There is, of course, a great deal of exaggeration and misrepresentation in the expressions of this sort, and much more is affirmed against the non-protective agency of vaccine lymph, than, as is usual, a dispassionate inquiry into all the circumstances of the case will justify or imply. The broad and undisputed fact of the actual diminution of small-pox since vaccination has been introduced and practised, is alone sufficient to contradict these wild notions, and to refute the vulgar prejudices afloat upon the subject. For, even during an occasional outbreak, the disease is nothing now to what it used to be formerly, when the old inoculation, which is itself not free from risk, was the only obstacle opposed to its incessant and alarming encroachments. At that time, it was a real plague of terrible malignity, whereas it is now a comparatively mild and transient epidemic. This well-known fact is a satisfactory answer in favor of the protective influence of vaccination, which, if not universally, is at least extensively serviceable and effectual. To medical men, the occasional failure of vaccine lymph presents itself in a very different light from that in which it is viewed by the public at large; and with vaccinators in particular it is a topic of the deepest interest, which they endeavor to explore to the best of their abilities, and in every possible direction. The various points of inquiry offered to their notice, may be reduced to the few following items.

I. A chief cause is the capital oversight on the part of the vaccinator himself, in transferring lymph from an imperfect pock. There is no doubt that this oversight or carelessness is a copious source of the quantity of bad lymph in circulation, as well as of the ultimate failure of vaccination as a protective agent. For it is a maxim in vaccinating, never to transfer lymph from a pock in the slightest degree abnormal, nor from a normal pock in a constitution evidently disordered or unsound; because, if it be so transferred, the inevitable result will be abnormal pocks and inefficient lymph. It is impossible to restore contaminated lymph to its primitive purity; no subsequent care in its propagation can ever recover its lost or defective virtue. Having once become devious or degenerate, it continues to descend, both degenerate and devious, until its power becomes extinct, and it fails to propagate itself, even in a degenerate form. This glaring fact is so unquestionable, that it is necessary to bring it forward, and place it first and foremost among the causes of the failure of the vaccine lymph.

II. Another main cause of failure is, we must candidly own, carelessness in the act of vaccinating. Not only is the good quality of the lymph used not strictly inquired into at the outset, but, what is more unpardonable, the mode of operating is not exactly performed. There is a right and a wrong way of vaccinating, just as there is a right and a wrong way of amputating, bleeding, or tying an artery. Every surgeon knows the value of performing an operation rightly, and the evil consequences to be apprehended from operating wrongly. It is the same with vaccination, which, in its vital results, takes rank among the capital operations of surgery, and requires, for its proper performance, an intelligence as clear and a hand as dexterous as ever fell to the lot of the best of surgeons. By neglecting, or by not being aware of, the precise way of operating, it happens that so many vaccinations turn out, either eventually or immediately, inefficient. The puncture is made too wide or too deep, or irregular; each of which faults materially affects the shape and character of the vesicle; or else, if it have been properly performed, and the lymph effectually inserted, it is not punctually watched from day to day throughout its progress. Success demands constant vigilance. In performing the operation, the cuticle alone must be raised, and the cutis beneath exposed, but not wounded, or wounded as little as possible. The cutting, or rather the scratching, of the cuticle, should be done lightly and delicately, with the least possible irregularity, and over the smallest extent of surface consistent with the application or insertion of the lymph. Its course must be watched and noted on the third, eighth, and fourteenth days in particular; and no case can be pronounced safe, unless every step in its progress have shown itself to be regular, critical, and complete. It is very necessary to point out these causes of failure; first of all, because they are frequent, and seem, in a great measure, to have lost of late years something of their due weight and importance in the estimation of medical men. From the medical pupil never having been hitherto distinctly educated on the subject of vaccination, he is naturally liable to fall into mistakes through inexperience, which can only be overlooked out of

tenderness to his unavoidable ignorance, in consequence of his never having been taught, *ex officio*, how to proceed with scientific precision. But, upon public grounds, inexpertness is inexcusable, and cannot be too severely censured and condemned.

III. Owing to a want of attention to the proper time for taking it, the lymph is transferred too soon or too late, and the obvious consequence is, that unripe or effete lymph is procured and propagated. Of course such lymph is weak, or altogether inefficient. It ought never to be taken away earlier than the eighth, and sometimes not before the ninth day. At too early a day, it is ichor rather than lymph. Again, it may be taken away too late; that is to say, after the ninth day, when it is becoming purulent, and the vesicle is turning into a pustule. The exact time is eight times twenty-four hours, dating from the hour of the day of vaccinating. The lymph will remain genuine till the ninth day is over, and sometimes even till the tenth; for occasionally the whole course of the pock is stage by stage a day after its time: thus, the inflamed point of the third day is delayed till the fourth, and the inflamed halo of the ninth does not reach its climax till the tenth, and so on. This delay in the progress of the symptoms is regarded as a favorable prognosis; and certainly, in cases disposed to reject the specific action of the virus, the inflammation and vesicle, besides their being abnormal, rise and disappear much too quickly. Lymph taken after the tenth day is universally reprobated; and none but such as are miserably ignorant or indifferent would ever think of transferring it at this late epoch.

IV. It is advisable never to transfer lymph that has become purulent. A prudent vaccinator never does. Not that pus *per se* invalidates the lymph any more than blood does; for it may appear on the ninth day mixed with the genuine lymph: nor would its accidental presence alone weaken or destroy its efficiency: but it indicates more inflammation than is necessary for the production of the true vesicle, and it moreover signifies the coexistence of an inflammation different in kind from that which produces the genuine lymph. After the tenth day, pus is sure to be mixed up with the contents of the vesicle, which is thenceforth rapidly declining, and ceasing to be prolific. A blow or injury of the vesicle will hurry on the appearance of the tenth day, and consequently render the lymph unfit for transfer. Sometimes the first stages of the pock are suppressed, and then it breaks forth all of a sudden into its normal appearance of the eighth day; but such a pock is invalid.

V. Many parents, especially in the upper classes of society, object to lymph being taken away from their child's arm, lest, as they fancy, it should weaken its ultimate effect. A prejudice of this kind would extinguish vaccination altogether. Nevertheless, there are not wanting acute observers who consider that, if all the vesicles be exhausted of their lymph, the prognosis is thereby rendered unfavorable, and, moreover, that such exhaustion causes local irritation and disturbance. Indeed, it is affirmed that convulsions and death have ensued from such a proceeding. Be this as it may, it is certain that every one concurs

in the propriety of leaving one vesicle intact, for the express purpose of judging of the normal progress of the pock from first to last; and no one would, we should suppose, be so imprudent as to irritate the exposed surface with the lancet or an ivory point, merely for the sake of draining it of every drop of its lymph. Yet it may be well to bear in mind, that one of the causes of the failure of vaccination as a protective agent, is imputed to thus draining the exposed vesicle—an error which, if it be one, it is easy enough to avoid.

VI. Lymph should never be taken from any but a primary pock. The pock resulting from a revaccination is not to be relied on. If there is any reason to doubt the vesicle being a primary one, it ought to be rejected.

VII. The actual or suspected presence of scrofula, syphilis, porrigo, etc., is quite sufficient to condemn the subject of it as a legitimate source of fresh lymph. A vesicle on such a subject, however perfect, should be allowed to die out by itself. Indeed, any eruption of the skin is a barrier against vaccination, except under the imminent risk of catching the small-pox; but as to transferring matter from such a constitution, it is out of the question.

VIII. The sudden accession of constitutional disturbance during the pock, or the increase and extension of the inflammation around it, should render the validity of the operation more than doubtful. A second vaccination should be attempted within six months from the first, and the sensitive feelings of mothers opposed to such a proceeding should be steadily overruled. Many a vaccinator, not satisfied with a first pock, would wish to repeat it until he felt confident in the normal character of the last produced. But he is seldom permitted to adopt this wise precaution; and this may be numbered among the causes of failure in vaccinating. The forms of society tie our hands, and force us to comply with its own conventions.

IX. The number of vesicles is said to modify the result of vaccination. Some maintain that one alone is sufficient, while others declare that several are requisite, to insure efficiency. There is no proof to support either the one or the other of these two assertions. Pathologically speaking, it would seem, *à priori*, that the existence of a single good pock manifests the saturation of the system with the virus as entirely as any multitude of them would do. But as a matter of fact, there is nothing to help us in arriving at a decisive conclusion respecting it.

X. The most popular notion concerning the failure of vaccine, is that derived from its supposed contamination by passing through so many successive generations of mankind. This is the most popular belief, and the one which appeals most readily to the greater number of minds. Nevertheless, of all the different reasons alleged for accounting for the acknowledged fact of deteriorated lymph, this would seem to be the most untenable. It is an hypothesis built up in the face of facts that directly contravene it. For genuine lymph, dating from the time of its first introduction, continues to produce a genuine vesicle from a genuine vaccination performed on a subject in a genuine state of health, as exactly now as it at first produced it under the hands of Jenner himself.

Lymph, fresh from the cow, is certainly more energetic than such as has been long ago in use; but the pock that it produces is identical, and its immediate and ultimate effects upon the constitution are the same. This hypothesis, likewise, fails in explaining the failures that happened even in persons vaccinated by Jenner. We must look for the cause of deteriorated lymph in other sources than this.

XI. Dry lymph is said to be another cause of failure, and the use of liquid lymph is enjoined. No doubt, liquid lymph, and vaccination from arm to arm, is always preferable, but it cannot always be brought about. Besides, there is no solid ground for supposing that the virus, when dry, upon points, between glasses, or in a crust, is not equally as active as when it is still moist and quite new. Every vaccinator is aware of this. Lymph may be taken to India and brought back again, and still prove energetic and effective. After all that has been said, the most apparent cause of failure is that of vaccinating with lymph taken from an irregularly formed vesicle, or from an unsound constitution, or at a wrong date of the pock. Independent of all other causes, this inadvertence or carelessness cannot be overlooked. The signs of an obnoxious or doubtful vesicle ought to be closely studied. They are both constitutional and local. The health may be cachectic, the child suffering from debility, or some congenital infirmity or malformation. In these instances the pock is worthless. Regular vesicles may coexist with an irregular one, which alone is sufficient to invalidate the integrity of all the rest—unless its irregularity can be accounted for by something purely accidental. The following eight points should be impressed on the memory:—1. Irregularity of form throughout all the stages of pock. 2. The vesicle not being round. 3. The color of the inflammation not being fresh and rosy, and that of the vesicle not of a pearly whiteness. 4. Its fluid contents being straw-colored, instead of colorless and transparent; or else being purulent on the eighth day instead of the tenth. 5. The areola, or surrounding inflammation, not being defined and circular, but, on the contrary, irregular, confused, and, as it were, blended with the vesicle, whereas it ought to be distinct from it. 6. The crust forming prematurely, looking pale or yellowish brown, and being friable and gritty, instead of dark, round, and compact. 7. The vesicle forming on the fifth day, and rising up of a conical shape, or festering like a small pustule. 8. The areola becoming efflorescent, or scurfy, or shooting out into a figure like the margins of a map. All such cases should be rejected without hesitation, and a second vaccination should be earnestly advised. It is by vaccinating from vesicles, more or less imperfect according to this description, that so many failures are recorded.—*Assoc. Med. Jour.*

Convulsions during the Incubative Stage of Scarlatina. By Dr. McClintock. Case 1.—The infant child of Mrs. O——, residing in Dorset-street, was seized one morning in the month of January with sickness of stomach, which proved rebellious to treatment, and continued most of the day and night, nearly all food being rejected as soon as taken. As this appeared to the family attendant (who was called in to

see the child) a solitary symptom, and was thought to arise merely from some temporary gastric derangement owing to improper food, no apprehensions were entertained, nor active measures employed, beyond what were calculated to appease the irritability of the organ. On the following morning, however, the infant suddenly got a convulsive fit, after which it passed into a state of coma, occasionally broken by slight general spasms. In the course of about two hours from the first fit, it expired, without appearing to be in the least degree benefited by the treatment which was put in force. Such was the account given me at the time by the attendant, as I did not myself see this patient. I may mention that the children of the family of which this infant was the youngest member, were three in number, and were remarkably healthy and robust up to the time when the present illness invaded them. The two elder ones had dark eyes, and long, curly, black hair. They slept in a confined room on the parlor floor, and by day usually occupied a small return chamber, very ill-ventilated, and heated by a smoky stove, in which coke was the ordinary fuel. It is right these circumstances should be stated, as it may be a question with some how far they could have contributed in the production of the symptoms.

Case 2.—On the same morning that this infant was buried, the next eldest child, a boy, three years old, began to complain of nausea and vomiting, for which some magnesia was exhibited; but towards evening, the irritability of stomach continuing, it was thought well to give him some powders containing calomel, which operated pretty freely on the bowels during the night; the motions being greenish and unusually offensive. His sleep was broken, and at times he raved, but beyond this there was not, so far as I could learn, any symptom referable to the head. As the child did not seem any thing better the following morning, my attendance was requested. Before I could get to the house, a most violent convulsion had seized the child, and on my arrival, fifteen minutes after its accession, he was perfectly insensible, with stertorous breathing, strabismus, dilated pupils, frothing at the mouth, spasmodic twitchings of right side of face and of the left arm. There was no increased heat of head, and the action of the heart was slow and weak; in fact the vital functions seemed so thoroughly oppressed by the severity of the shock they had sustained, that all power was gone. The child died within an hour afterwards, and on examination of the head there was found to be great venous congestion of the entire brain, but no serous effusion into the ventricles or arachnoid. This child being so soon attacked after the former, and presenting a train of symptoms so precisely similar in their course and termination, were circumstances which certainly afforded ample scope for conjecture, but could not at the time admit of satisfactory explanation. Careful inquiries were made as to whether any scarlatina, measles, or other eruptive fever existed in the neighborhood, but we could not positively ascertain that there did.

Case 3.—The eldest and only surviving child, a fine boy, of four years and a half old, was, by our advice, immediately removed to the

house of a relative at Rathmines. He appeared then in rude health, nor could I, upon the closest investigation, discover in him any symptom of disease. The very same night, about ten hours after his removal, he began to complain of symptoms exactly similar to those which ushered in the attack of each of his brothers—namely, nausea and vomiting. The nearest medical advice that could be procured was now urgently sought for, and Dr. Power saw the child not long after the first appearance of these symptoms. What particular treatment he then directed, I do not exactly know; but suffice it to say, that scarlatina of a rather severe form declared itself, and having gone through its regular course, the patient slowly but perfectly recovered.

Now, this last case, I think, throws a satisfactory light upon the nature of the former two, and supplies us with a rational explanation of the cause of their peculiar symptoms. If scarlatina, therefore, was the *fons et origo mali* with each of the three (as is most probable), it is interesting to observe that the youngest was the first to experience the effects of its malignant influence, the second child next, and the eldest last, and yet it is very likely they all received the contagion from the same source and at the same time.

Dr. Charles West has related in his lectures a case so strikingly illustrative of our present subject, that I must beg leave to read it:—"Active cerebral congestion (he writes) is not a very unusual consequence of the disturbance of the circulation at the outset of the eruptive fevers. Convulsions and apoplectic symptoms sometimes come on suddenly in a child previously, to all appearance, in perfect health, and may even terminate in death in less than twenty-four hours. The brain is found loaded with blood, but all the other organs of the body are quite healthy. A year or two ago I was requested to be present at the examination of the body of a boy not quite two years old, who had been in perfect health until the day before his death, which took place under such circumstances as I have just mentioned. The congested state of the cerebral vessels gave but little satisfactory information; but the same evening the brother of the child was taken ill with vomiting, intense fever, and sore throat. In a few hours a red rash appeared; the case was one of scarlet fever, and ran its course with considerable severity, though happily, to a favorable termination. It is probable the poison of the fever had affected the blood of both children, and that the consequent disturbance of the cerebral circulation was so violent as at once to destroy the life of the younger, while the elder brother survived the shock, and in him the disease soon presented its usual features."

Case 4.—The following case occurred in the family of an acquaintance of my own, not very long ago:—A child, between one and two years old, after a very brief and apparently trifling indisposition, was unexpectedly seized with violent convulsions, so severe indeed as to destroy life very speedily. A careful post-mortem examination was instituted, but without discovering any adequate cause for the attack. The lapse of a few hours, however, cleared away the mystery, as scarlatina then made its appearance among the other children.

In the hope of giving a practical turn to this short paper, I would venture, in conclusion, to touch upon the important question as to the plan of treatment that would hold out the best chance of rescuing a patient attacked in the manner, and under the circumstance above described. Without presuming to lay down any rules, or to speak authoritatively upon this point, I may nevertheless be permitted to offer a few observations suggested by the consideration of the afore-mentioned cases. As experience generally shows us that the appearance of the efflorescence is speedily followed by a mitigation in the severity of any violent symptoms, such as convulsions, that may be present, a primary object, therefore, in these urgent cases, should be to favor its eruption by all the means in our power. If the child be seen during the initiatory state, and before the cerebral symptoms have manifested themselves, some stimulating emetic might be very serviceable. Along with this, the employment of general cutaneous stimulations might be resorted to. A warm bath strongly impregnated with salt, is a very efficient means of determining the blood to the surface; or if this cannot conveniently be obtained, the skin may be well rubbed with coarse flannels dipped in some stimulating liquid, such as warm vinegar and salt, or vinegar and whiskey; subsequently the external heat should be kept up by the application of hot flannels and bottles of hot water to different parts of the surface. The question of bleeding after the convulsions or apoplectic symptoms have seized the patient, would naturally occur to the mind of the practitioner. In some instances where there is a warm skin and strong pulse, with signs of increased vascular action, its propriety will hardly be denied. But on the other hand (and this is perhaps more commonly the case), the pulse may be weak and the surface cool, and here depletion might so diminish the oppressed energies of the nervous and circulating systems as at once to extinguish what little life remains. With much show of reason, it has by some been argued that the *vis vitæ* is here reduced, and life endangered simply from the great internal congestion or stagnation of the blood, some of which must be abstracted before an amendment can take place: "as," to quote the simile of Dr. Armstrong, "the light of a candle may be nearly extinguished by too great an accumulation of melted wax round the wick, and yet be quickly revived by drawing off the superabundant fluid." In accordance with these views, he recommends bleeding, but at the same time enjoins the strictest caution as to the quantity; insisting also that, from the moment the blood begins to flow, the finger should be kept on the pulse, so as to arrest the depletion on the very first indication of failure in its strength. There are, perhaps, few practitioners at the present day who would be bold enough to bleed a patient under these circumstances. Believing as I do, that the symptoms of collapse are attributable more to the direct influence of the scarlatinal poison upon the vital centres, than to simple congestion, I frankly confess myself to be of the number of those who would rather abstain from bleeding than run the risk of bringing discredit upon a valuable remedy. Such is my present opinion, and it is founded on the character of scarlatina for some years past."—*Dublin Med. Press.*

On the Treatment of Erysipelas with Iron. By G. W. Balfour, M.D.—In consequence of having witnessed the cure of a case of erysipelas treated with iron, under the joint care of Dr. Charles Bell and myself, and also in consequence of Dr. Bell's assurance of its great and unfailing success, I was induced to give this method a trial, and this the more readily that opinions were very much divided regarding the proper treatment of this disease, and I myself had no great confidence in any. Since that time I have treated all my cases, upwards of twenty, with iron, and have had no cause to regret my doing so. On the contrary, erysipelas is one of the few diseases for which I now believe we have a certain and unfailing remedy, and this whether it be infantile or adult, idiopathic or traumatic. The first case so treated was a highly scrofulous woman, with erysipelas of the scalp, arising from irritation of two large sores on it. She was cured in three days. The second was a man with erysipelas of the foot and ankle; cured in two days. The third was a case of traumatic erysipelas of the scalp in a woman; she was ill for a day or two before being seen, but was cured in about five days' treatment. The wound, a deep cut about three inches long, was healed within a week. In short, all the cases, many of them very severe, and accompanied with high delirium, some of them phlegmonous, others vesicular, and several occurring in children, were cured in less than a week on the average. Suppuration took place in none but two—in both of whom the treatment was not commenced till after effusion had taken place. Their convalescence was, of course, more tedious. The ninth day was that on which convalescence commenced, even in the most severe cases, and *probably* the course of the disease would have been shorter even in them had the medicine been given more regularly; for so sure is it in its effects, that I can, with I may almost say absolute certainty, predict the state of the patient on ascertaining the quantity of the drug taken, and a glance at the bottle is fully as informing as to the state of the disease as a look at the affected parts themselves.

The tincture of the muriate is that preparation of iron I have hitherto employed, the dose varying with the age of the patient; the great object being to saturate the system with iron as speedily as possible, and to keep it so till the disease is abated. A few doses suffice to remove the pain, and lessen the heart's action; it acts also as a diuretic, and to some extent corrects the secretions, often cleaning the tongue as well as any purgative. It never produced headache nor other unpleasant symptom, and was continued with advantage throughout the highest delirium. The only other remedy employed was an occasional purgative, and the local application sometimes of a warm poultice, and at others of simple flour or starch powder and cotton wadding, the poultice being preferred, perhaps without much reason, when the situation or extent of the part affected did not throw difficulties in the way of its application.

Its principal curative action seems, as Mr. G. Hamilton Bell supposes, to be exerted on the capillary vessels; and for this reason, that while its diuretic action is equally well maintained by smaller doses,

less frequently repeated, its curative action is not obtained unless the system be saturated with it, and kept so for some time. Further, without denying that it may act as a renal purgative in disease, I may add that, from some experiments on myself, it does not seem to do so in health. The quantity of the urine was much increased by fully a half, yet the quantity of urea was increased relatively and absolutely only to so small an amount, a grain or two in twenty-four hours, as to be far within the usual limits of aberration, and much too insignificant, supposing it to be real, to account for the wonderful curative agency of the drug. On taking twenty minims of the tincture every two hours, the second and third doses produced some slight degree of tension in the head, a symptom which subsequently ceased, and did not return. At this period, too, the pulse was slightly accelerated, possibly from nervousness, it afterwards came down from 80, my usual average, to 64. The iron was taken at intervals of four days, regularly every two hours for the last twelve hours. Its diuretic action was always established within an hour after taking each dose; no iron could be detected in the urine, nor in the serum of the blood; but as this may depend on my want of refinement in chemistry, I am willing to give any chemist who may be anxious, another opportunity by repeating the experiment; for I know no method of treating any disease more worthy of investigation, and none more deserving of adoption by the profession than the treatment of erysipelas with iron. Some have supposed its efficacy to be owing to its *stimulant* action. That this is not the case was well shown in a case I had recently under my care,—a young man laboring under scarlatina, who had a patch of erysipelas vesicular over the sacrum, and one over the right armpit. Neither of these were at all influenced by the carbonate of ammonia, employed in the treatment of the coexisting scarlatina, but yielded at once to twenty-four hours' treatment with the muriate of iron.—*Monthly Journal.*

On the Treatment of certain cases of Rheumatism with Aconite. By G. W. Balfour, M. D.—While the employment of aconite in rheumatic fever, where it is desirable speedily to affect the system, entails an amount of care and watching, from the powerful nature of the remedy, which renders it unsuitable for country practice, there are certain cases of subacute rheumatism for which it is most suitable. These are chiefly synovial in character, with a more or less marked febrile state of the pulse. Where that is wanting, as in more chronic cases, aconite is rarely useful. In less urgent cases of affection of only one joint, and in many cases of sciatica, regulation of the bowels, and the local employment of the aconite, are often sufficient.

As aconite, without being cumulative in its action—*i. e.*, it is never prolonged or developed after the immediate action of the last dose has ceased, yet has this peculiarity, that one dose paves the way for another, rendering its action more powerful often than was to be anticipated, the dose requires to be very cautiously increased, and very often gradually diminished. I have in one case gradually increased the dose of Dr. Fleming's tincture to ten minims thrice a day, and as gradually dimin-

ished it to one; still keeping up the same amount of action. The patient was much benefited, but not cured. Sometimes it produces symptoms of gastric disturbance, which, when they threaten, are best prevented by giving the aconite after a meal.

Diaphoresis was believed by Störk to be one of its principal actions, yet Dr. Fleming never observed it, and I have only seen it once; but in that case it was most copious, the whole bedding being saturated after each dose. The patient was not benefited by his perspirations, and on account of them the aconite was stopped. To obtain the curative action of the aconite, its physiological one requires to be fully developed —the coincidence of the two is generally well marked. It is best given in plain water; and for external use, its tincture may be mixed in various proportions with plain soap liniment. The presence of opium, so often combined with it, is unfavorable to the development either of its physiological or curative action.—*Monthly Journal.*

Arsenic in chronic Scabies. By Philip Henry Williams, M. D.—Case. I was consulted, February 1852, by H. B., aged 22, who stated that she had been suffering from an eruption during nine successive months. The description clearly indicated scabies; and the appearances on the arms, wrists, fingers, legs, ankles, and toes, left no doubt as to the nature of the disease. There were a few scratched spots on the face, which, although a comparatively rare seat of scabies, appears in chronic cases liable to be affected. The itching was, and had been, commensurate with the extent of the malady. Various applications had been tried without benefit. On the hands and toes several distinct pustules had recently occurred, which, in the words of Dr. Bateman, were "moderately inflamed round their bases, and maturated and broke in two or three days; then ulcerated, with increasing pain and inflammation." Hence it would seem that the decidedly purulent species (scabies purulenta) was supervening on the ordinary development. The pustules subsequently appeared on other parts, especially on the arms and thighs, and remained after the simple eruption had died away. The constitution, at the commencement of the attack, was stated to be good; and at the time the patient came under my notice, the health was not impaired. The catamenia were quite regular. I prescribed sulphur ointment, giving iodide of potassium and sarsaparilla in the usual doses, and compound rhubarb pills at proper intervals. This treatment was continued for a month, with very little success. I then ordered three minims of the liquor potassæ arsenitis to be taken three times daily, in camphor mixture. At the end of three weeks the face became quite free from all traces of the eruption, and at the end of the fourth week the disease was declining over the body generally. The mixture was omitted for a few days, in consequence of slight headache, and was then resumed in the same dose, twice daily. In three weeks from that date, the patient was cured, with the exception of some of the larger pustules, which were not healed until a fortnight afterwards. Poultices of linseed meal were applied to them.

Up to the present time, there has been no return of the malady.

A younger sister of the patient suffered at the same time from simple scabies, which yielded at an early period to sulphur ointment and tonics. A companion of Harriet B. also contracted the disease, which became chronic, and required the same arsanical treatment for its removal.—*Assoc. Med. Jour.*

Butter a Substitute for Cod-Liver Oil.—Cod-liver oil is an aliment which restores and reconstitutes the tissues; in a word, it is an analeptic medicine, by the aid of which the disorganizing action of tubercle is combated. The only inconvenience attending its use is, that it is sometimes difficult of digestion. In this case, M. Trousseau substitutes, with advantage for it, the following compound: "Fresh butter ℥ iv.; iodide of potassium gr. ¾; bromide of potassium gr. iij.; common salt ℥ ss. This butter is eaten during the day on very thin slices of bread.—*Dublin Med. Press.*

On Elective Elimination by the Salivary and other Secretions. By M. Cl. Bernard.—In this paper M. Bernard calls attention to the fact, that some of the secretions rapidly eliminate certain substances, while other substances, equally soluble, are either eliminated much more slowly, or not at all. He relates the results of a series of experiments, in which iodide of potassium, iodide of iron, lactate of iron, cane and grape sugar, and yellow prussiate of potassa, were injected into the veins, and the various secretions then tested for their presence.

Of these, *iodide of potassium* appeared, at latest, in from 30 to 40 seconds in the saliva, and was also rapidly observed in the tears and pancreatic juice. It required more than an hour to become detectable in the urine or the bile; and if injected in very small quantities, was not found in these at all. Introduced into the stomach, and especially fasting, it was found in the saliva in 1½ minute. The *yellow prussiate of potassa* was not discernible in the saliva, while in 7 minutes it was found in the urine and abundantly eliminated; the serum of the blood also exhibiting a notable quantity in an hour and a half. It was also found in the bile, while, although it was thus circulating in the blood, no traces of it could be found in the pancreatic juice. *Grape and cane sugar* never passed into the saliva or pancreatic fluid, while it was manifested in the bile and urine, though less rapidly than the prussiate. As various authors state they have detected sugar in the saliva in *diabetes*, the author examined that of several such patients under M. Rayer's care. In none was sugar detected, although the bronchial mucus and sputa evidently contained it. The *mammary gland*, which in the normal state contains the sugar of milk in its secretion, refused passage to grape or cane sugar, even when these substances existed in large quantities in the blood. A saturated solution of *lactate of iron*, thrown into the veins, never gives rise to iron in the saliva; but when the iron is injected as an *iodide*, it obtains admission into the saliva, both the iron and the iodine being then detectable.

This expulsion of certain salts by this or that secretion, is not the only peculiarity the history of elimination presents. Some substances

are eliminated rapidly and completely, while others remain within the tissues for a more or less long period. It is well known that certain of these, as mercury, antimony, and arsenic, become localized in certain organs—e. g., the liver—and are then gradually eliminated: but it has not been noted that others, as the iodide of potassium, which are perfectly soluble, and remain soluble in the economy, wherein they circulate without enduring any accident, may remain for a certain time in the substance of the organs. Two or three weeks after iodide of potassium had been introduced into the stomachs of several dogs, and long after its supposed entire elimination by the urine, in which it had ceased to appear, it was found in the saliva and gastric juice. If, however, purgatives were employed after administering the iodine, it ceased to be detectable in a few days in any of the secretions.—*Archives Générales—from Med. Chir. Rev.*

SURGERY.

On a New Mode of Producing the Instantaneous Coagulation of Blood in the Arteries—Aneurism of the Suborbital Artery, cured by this means.—Our readers, no doubt, remember the interesting account communicated by M. Lallemand to the Academy of Sciences, of the experiments made by M. Pravas of Lyons, to obtain instantaneous coagulation of blood in arteries. This question having been lately brought before the Surgical Society of Paris, connected with its successful application in man, we will briefly detail in what M. Pravas's method consists.

He makes use of perchloride of iron at the maximum of concentration, a few drops of which is to be injected into the vessel in which it is desirous to obtain coagulation. This injection is to be made with a very fine trocar, of either gold or platinum, the diameter of which is scarcely greater than that of a needle; this is to be introduced very obliquely, through the parietes of the artery, with a wriggling motion. To this trocar is adjusted a small syringe, the piston of which works with a rack and pinion motion, so that the injection proceeds without impulse, drop by drop, and in such a way, the quantity of liquid injected can be accurately measured. Every turn of the pinion allows of the escape of two drops of the liquid. Whilst this injection is used, the circulation is momentarily arrested in the vessel by means of pressure above and below. A few drops suffice (three or four in a sheep, six or eight in the horse) to form a solid and resisting clot.

Up to this time, the experiments had been only made on animals, but M. Lallemand expressed a hope to see them succeed in man. This appeal has been heard. M. Raoul Deslongchamps has just sent before the Surgical Society of Paris a case of aneurism of the suborbital artery treated with success by injection of perchloride of iron. It was a tumor situated in the suborbital region, affording pretty strong pulsations, isochronous with the heart's action. This tumour, for the cure of which compression had been used without effect, disappeared completely by means of the injection, as recommended by M. Pravas, after presenting some inflammatory symptoms, which easily yielded to antiphlogistic treatment.—*Gazette Médicale de Toulouse—from Dub. Med. Press.*

On a Cause of Deafness not hitherto described. By James Syme, Esq.—Diseases of the ear may be divided into the *curable* and the *incurable*. The former are remediable in accordance with the ordinary principles of surgery. The latter belong to the "Aurists." The two following cases pertain to the surgical department, and present examples of a morbid derangement in the auditory organ, which, so far as I know, has not been noticed by any other writer on the subject, either general or special.

Case 1.—W. T., aged 17, was admitted into the Royal Infirmary on the 27th of September, 1848, on account of severe pain and deafness of his left ear. On looking into it, I saw at the bottom of the tube a small white body apparently composed of bone, but so extremely sensitive of pressure that a satisfactory examination could not be accomplished until the patient was placed under the influence of chloroform. It was then ascertained that the growth possessed an osseous consistence, and as it did not so fully occupy the cavity as to prevent me from introducing the point of the small polypus forceps, I, by this means, easily effected its extraction. It was similar in size and form to the half of a small split pea, and had adhered to the side of the cavity by a narrow neck. The patient sustained no inconvenience, and immediately regained his hearing, while the pain which had been so severe for the preceding three months as to render him unable for following his employment, completely ceased.

Case 2.—R. H., aged 35, was admitted into the Royal Infirmary on the 5th of April, 1853, on account of deafness and uncomfortable sensations connected with his right ear, by which, he said, that for twenty years the ticking of his watch could not be heard. On looking into the tube, I saw an appearance so perfectly similar to that which has just been described, that I at once recognized the same condition. As the excrescence was larger than in the former case it did not allow space for introducing the point of the forceps, but allowed a probe to be passed round it, so as to let me ascertain the position of its connecting pedicle. By means of small straight scissors I divided this and then lifted out the piece of bone. The patient immediately regained his power of hearing.—*Monthly Journal.*

On the Anti-Hemorrhagic Effect of Chloroform during Operations. By M Chassaignac.—Surgeons who have performed a great number of operations with the aid of chloroform must have observed the small amount of blood lost during severe operations by some subjects under the influence of this anæsthetic: for my part I have long remarked it. Without attaching importance in other respects to this peculiarity, I could not avoid comparing the trifling nature of these losses with the large quantity of blood generally poured out in capital operations in which chloroform is not employed.

Reflecting on the mode in which such a result might be produced, it soon occurred to me that an individual in whom the physical and moral agitation caused by an operation raises the pulse to 120, must lose more blood from an opened artery than one in whom the pulse does

not exceed 60 beats in a minute, and I thought that we might find in this fact something extremely advantageous, and having a direct practical application in reference to hemorrhages occurring during operations. Still, this was so far but a surmise, resting partly, it is true, on impressions sufficiently vague, but also supported by this physiologically incontestable reasoning, viz., that a wounded person whose pulse beats 120 in the minute must lose, in a given time, all other things being equal, more blood than one in whom it does not exceed 60.

But to draw conclusions, and, above all, conclusions capable of practical application, something more is necessary than surmises and reasoning, however plausible they may be. I therefore resolved to submit to special observation in this respect a certain number of patients operated on in the Hospital Saint Antoine, and I am now desirous of drawing the attention of surgeons to the results thus obtained.

The observation of eleven cases, viz., three of amputation of the thigh, one of amputation of the leg, four of removal of the breast, one of total resection of the first metatarsal and first cuneiform bones, one of resection of the humerus, and one of resection of the inferior maxillary bone,—has furnished me with the opportunity of establishing, that, whether during the period of collapse, or that of anæsthetic tolerance, the losses of blood which usually attend such cases were vastly lessened; and that, especially in two subjects, one a female, from whom the breast was removed, and the other a man on whom amputation of the thigh was performed, it might almost have been said that the operations took place without hemorrhage. In the latter case, it is true, the compression of the femoral artery was maintained with great precision; still, it was evident that the chloroform contributed to the arrest of the blood, for when I desired that the compression should be suspended, the entire of the wounded surface, with the exception of the principal artery, which furnished a very moderate jet, gave so trifling a flow of blood that we were obliged to wait for the cessation of the anæsthetic state, to be able to apply ligatures to the secondary arteries. In the female, whose right breast was removed on account of a gland-like tumour, a teaspoonful, literally, of blood was not lost during the operation. In this case I committed the mistake of not awaiting the restoration of consciousness before dressing the wound; and—a point well worth attending to—hemorrhage supervened, which was not discovered until some time after the application of the dressing, some hours, in fact, after the patient had been replaced in bed.

It is not only with respect to arterial hemorrhage that chloroform may be considered as diminishing the loss of blood; it has a similar effect on venous hemorrhage. It is known, in fact, that the badly restrained efforts of a suffering patient predispose him in a peculiar manner to the latter variety of loss of blood; for he is under the influence of two causes which play an important part in this kind of hemorrhage: first, imperfect respiration, and next, energetic muscular contractions. These two causes are removed by chloroform and are replaced, through the effects of this agent, by a state of collapse or anæsthetic tolerance.

In order to give a rational account of the forces in virtue of which

the phenomenon we are considering takes place, it will suffice to compare briefly the condition of a patient operated on in the ordinary state, with that of an individual who has reached the period of tolerance. In the former, the dread of the operation about to take place accelerates the number of the pulsations, increases the impulse of the heart, and retards the free return of the venous blood, not only in consequence of the disturbance of the respiration, but also of the efforts made by the patient, while restrained by the assistants. Thus, increase of the number of the pulsations, augmentation of their intensity, and arrest of the venous blood, are the circulatory conditions of the patient submitted to operation without the employment of anæsthetics. What do we observe when the latter have been administered? Precisely the contrary: diminution of the frequency of the throbbing of the pulse, weakening of its intensity, and a normal state of the respiration and of the venous circulation. Comparing such opposite conditions, it is not difficult to understand the difference of the result observed in reference to the hemorrhagic tendency.

Let us now consider what practical conclusions may be drawn from what has just been laid down. Under this head, and as the result of my observations, I may observe :—1. That the sedative action of the chloroform, during what has been styled the period of tolerance, diminishes in those who are operated on: *a*, the number of the pulsations, *b*, the strength of the impulse of the heart; *c*, the arrest of the blood which is a cause of venous hemorrhages. 2. That the diminution of hemorrhage, during the period of tolerance, may be a real advantage in the case of operations involving the possible opening of a great number of vessels. 3. That if it is sometimes useful, as has been recommended by some surgeons, not to apply the dressing until a certain time had elapsed after an operation, this procedure may be said to be obligatory after the employment of chloroform, the chances of an ulterior hemorrhage being greater in proportion as less blood has been lost during the operation.—*Le Moniteur des Hôpitaux.* (*Dub. Quart. Jour.*)

MIDWIFERY AND DISEASES OF FEMALES.

Galactagogue and Emmenagogue Effects of warm and stimulating Applications to the Mammæ. By John Rose Cormack, M. D. My object at present is to establish, by the brief narration of a few facts, the following propositions:—

1st. Warmth and stimulants applied to the mammæ often act powerfully as *galactagogues.*

2d. Warmth and stimulants applied to the mammæ often act powerfully as *emmenagogues.*

3d. The leaves of the bofareira (or ricinus communis) and jatropha curcas act as galactagogues and emmenagogues; but not from their possessing any peculiar or specific power.

I. Warmth and Stimulants applied to the Mammæ often act powerfully as Galactagogues.—Case 1. *Milk restored to the mammæ by hot fomentations.*—Last month, a lady, when nursing her infant, about seven months old, was attacked with acute bronchitis of

moderate severity, which was successfully treated by low diet, and tartar emetic in small doses At the end of four days, the bronchitis was cured; but the milk, which had previously been failing, almost entirely left the breasts. On the fifth day, from exposure to cold, she experienced a relapse of the bronchial affection. As she had been considerably weakened by the previous attack, and as the symptoms of the relapse were not sufficiently severe to justify recourse a second time to antimony, I ordered her to take a draught containing ammonia and chloroform, as an anodyne, expectorant, and diaphoretic, every eight hours; and to carry out similar intentions, I also directed a succession of pillow-cases, filled with heated moist bran, to be applied to the chest. When I saw her on the following day, after this treatment had been employed, she told me that she had profusely perspired for some hours; she was (after copious expectoration) free from cough, and pain in the chest; and, what was equally a source of pleasure and surprise to her, *her breasts had become distended with milk.* This lady was able to resume nursing, and to continue it with the assistance of a suitable diet.

Case 2. *Effects of a sinapism applied to one of the mammæ of a lady, five months advanced in pregnancy: effects of warmth in the same case.*—A lady was under my care for bronchitis, at the same time as the patient whose case I have just sketched. She was directed one night to apply a sinapism over the sternum, which she did, but having fallen asleep, it slipped to the side, and remained undisturbed for about an hour upon one of the breasts. For some days, this mamma was very much larger in size than the other, and its areola was also much darker. From the delicacy of this lady, and the unusual severity of the weather, I directed her to wear a double flannel jacket, and a wadded wrapper round the chest. She tells me that *the breasts are larger, and the areolæ much deeper in color than they ever were in any of her ten previous pregnancies even at the full time;* and these conditions were established while her general health was exceedingly depressed by illness.

Case 3. *Stimulating embrocation increasing the supply of milk.*—A lady, though in excellent health, had a very scanty supply of milk for her infant, when it was a few weeks old. She consulted me as to the use of means to remedy this evil; and I advised her to rub the mammæ gently, every six or eight hours, with an embrocation containing a small quantity of tincture of cantharides and oil of thyme, and to sheath the mammæ very warmly in wadding. *In a few days the milk was abundant.*

Case 4. *Hot poultices keeping up the secretion of milk when this was not desired.*—A lady suffered, after her confinement, from a succession of abscesses, and abortive abscesses in the breast. The surgeon who attended her treated her by antiphlogistic medicines, under which discipline she passed some wretched months, from mental and bodily depression, aggravated by hysterical attacks. The local affection did not seem to make any satisfactory progress; and the great obstacle to a cure was stated to be the impossibility of getting rid of the milk, in spite of saline purges being freely administered. The mammæ during

the whole of the period to which I refer, had been ceaselessly treated, night and day, with hot poultices and medicated fomentations. These applications were abandoned, and a generous diet prescribed. *In a few days there was not a drop of milk in the breasts;* and the abscesses, actual and threatening, had ceased to give any pain, and had, in fact, almost disappeared.

I might refer to other cases, which I have vividly in my memory; but the above, which have occurred within the last three months, seem sufficient to establish the first proposition—viz., that *warmth and stimulants applied to the mammæ often act powerfully as galactagogues.* I need hardly add, that along with the use of such means, the regular application of an infant to the breast would greatly assist in producing lactation, as, according to the testimony of various authors, this stimulus has of itself proved sufficient to restore the secretion of milk, and has actually caused it to flow, not only from virgins and other women who had never been pregnant, but even from males. Excitement and sanguineous turgescence of the gland is induced; and these conditions afford to the organ both a power and a stimulus to perform its previously dormant function.

II. Warmth and Stimulants applied to the Mammæ often act powerfully as Emmenagogues.—Warm clothing of the abdomen and limbs, hot hip-baths, and medicines which stimulate the bladder and rectum (such as ergot, cantharides, and aloes), have undoubted emmenagogue powers in properly selected cases of retarded or suppressed catamenia; and, indeed, they constitute, in various combinations, the principal measures by which the physician usually endeavors to excite the ovarian nisus upon which menstruation depends. The observant physician knows well, that while his treatment is directed to the uterus through the ovaries, the effects produced upon the mammæ are generally very striking, and the first indications which he expects to find of the uterus being roused from its torpor are turgescence and tingling of the mammæ; phenomena which also usually precede normal menstruation. It is equally true, though not so familiarly understood, that measures which act directly and primarily upon the breasts, such as warm clothing to the bust, and the application of stimulants, not only cause them to swell and throb, but likewise stimulate the ovaries, and cause the menses to flow. The practice adopted by some practitioners, of applying leeches to the mammæ in amenorrhœa, owes its efficacy to fomentations used, and the irritation of the bites.

In 1834, Dr. Charles Patterson published, in the *Dublin Journal of Medicine*, a paper, in which he described the emmenagogue power of irritation of the mammæ by sinapisms. This paper fell into my hands at the time of its appearance, when I was an Edinburgh dispensary pupil, practising, I believe, with more zeal than knowledge, and using, often with more confidence than discrimination, that plan of treatment which I had seen most recently or most enthusiastically recommended. In these circumstances, I successfully employed Dr. C. Patterson's method in amenorrhœa. The beneficial results which I then obtained, produced a very strong impression upon my mind as to the efficacy of

irritation of the mammæ in producing menstruation; and the experience of nineteen maturer years has confirmed this impression. As Dr. Patterson's facts do not seem to be referred to by subsequent writers, and as the practice which he recommends is so little noticed by authors, I subjoin an extract from his paper. Dr. Patterson writes as follows:—

"Mary Reardon, aged 24, of moderately corpulent habits, was admitted into the Rathkeale Hospital on the 10th of August, 1832. She labored under slight synochial fever, which in a few days yielded to venesection and purgatives. On the 19th August, symptoms which were considered of a hysterical character presented themselves, with pain in the upper and outer part of the right side of the chest. For the latter affection, a small sinapism was prescribed; but from inattention of the nurse, it was made so large, that it covered a considerable portion of the mamma. The sinapism remained on for half an hour. At the visit on the following morning, the 20th August, Reardon complained that the right breast was exceedingly painful—the pain being very different in its character from that which she had before experienced. On examination, the whole side of the chest was found considerably swollen; there was slight diffused redness of the skin; and though the mamma itself was enlarged to four or five times its natural bulk, yet there was no circumscribed hardness, nor any tendency to suppurative inflammation. On the 21st August, the right mamma and adjoining parts of the chest were found much more enlarged than they had been at the preceding visit. The left mamma and side of the thorax were unaffected; and it was announced by the nurse that the catamenia had that morning appeared, and were then in considerable quantity. This discharge, which, as the patient stated, had been for two years and a half wholly suppressed, continued to flow for two days; then it began to decline, and with it the tumefaction of the mamma gradually disappeared." (Pp. 193–194.)

Dr. Patterson's attention having thus accidentally been directed to mammary irritation as an excitant of the torpid uterus, he resolved to try its efficacy when a suitable opportunity presented itself. His next case is thus described:—"Catherine Power, aged 19, applied to me on the 14th September, 1832. She complained of headache, languor, loss of appetite, and inability to attend to her usual business—that of a servant. She stated, that about the middle of April, the menstrual discharge being then present, she incautiously exposed herself to cold in washing clothes at a river. The catamenia then suddenly ceased, and had not since returned; and from that period she had been constantly subject to ill health. She had consulted different medical gentlemen, and taken a great variety of medicine, with little advantage. I directed that the clavicular half of the right mamma should be covered with a sinapism. It was allowed to remain on for thirty minutes; and on visiting her in six or seven hours after its removal, I found the whole right breast considerably swollen, hot, and painful. The next morning, the enlargement of the mamma was very much increased, the tumefaction having extended to the clavicle and axilla of the irritated side. There was no hard circumscribed or prominent tumor, but a painful,

diffuse, elastic distension of the mammary gland, and surrounding cellular substance. On the evening of the day next succeeding the application of the sinapism, this poor girl with much joy reported that the catamenia had appeared. The flux having continued for two or three days in moderate quantity, she then found herself greatly relieved of the headache and other most distressing symptoms; and in a week her health was so far restored, that she ceased to require any further attendance." (Pp. 194–195.)

I am disposed to regard irritation of the mammæ as a convenient and rapid agency for the induction of menstruation; but one which must neither be rashly nor indiscriminately employed. In numerous cases it may be used alone; but, generally speaking, it may be advantageously combined with other means. In cases of acute suppression of the menses, I am in the habit of prescribing, along with sinapisms to the mammæ, warm clothing of the bust and limbs, and the hot hip-bath every twelve hours. In anæmic amenorrhœa, it need hardly be stated, that irritation of the mammæ is only calculated to do good in conjunction with, or after a course of, a metallic medicine, such as some of the preparations of iron, manganese, or arsenic. In such cases, where we can trace a monthly ovarian nisus, though there be no catamenial flow, these periods should be seized as the appropriate times for using the sinapisms, and then also we may sometimes, by venturing a few doses of forcing medicine, such as cantharides and ergot, bring the case at once to a favorable issue.

The emmenagogue effects ascribed to the application of the leaves of the ricinus communis, by Drs. M'William and Tyler Smith, can easily be understood, when we remember their irritative character, and the consequences which we have found to be induced by irritation of the mammæ caused by other stimulants. "When the breasts," says Dr. M'William, "are small and shrivelled, the plant is said to act more upon the uterine system, bringing on the menses, if their period be distant, or causing their immoderate flow, if their advent be near." In the subjoined case, related by Dr. Tyler Smith, the effect produced may have been owing partly to the application to the breasts, and partly to the application to the genitals. "I have used," says Dr. Tyler Smith, "the remedy in a case of scanty menstruation of a remarkable kind. Owing to exposure to marsh malaria some years ago, the patient had scarcely a sign of colored discharge at the usual catamenial periods. She used the infusion of the leaves of the red bofareira at the date of her period, applying the infusion and leaves to the breasts, and the vapor to the genitals, with the effect of producing, in two days, a considerable flow of the catamenia."

III. The Leaves of the Bofareira do not produce their Galactagogue and Emmenagogue effects in virtue of any specific property.—The facts which have been already cited, point out pretty plainly that the effect of the leaves of the bofareira does not depend upon any specific property possessed by them; but simply on the determination produced by warmth and the irritative juices which they contain. That a good deal depends upon the mere warmth of the

poultices, is sufficiently obvious. I have seen frequent examples in my own practice. I will not, however, enter into the particulars of these cases; but will conclude by mentioning two circumstances, which thoroughly corroborate this view. In the *Boletin de Medicina, Cirujia, y Farmacia* of 14th November 1852, a short abstract was given of Dr. M'William's paper. In the same journal of the 19th December following, a correspondent writes to say, that in consequence of the notice which had appeared of Dr. M'William's paper, he had used fomentations of fig-leaves (*hojas de higuera*) to promote the secretion of milk in three cases, in which it had wholly or nearly ceased. In all the cases the benefit was decided. The Spanish practitioner wrote to confirm the practice recommended by Dr. M'William, but he has in reality, by using the wrong leaves, shown very clearly the galactagogue effects of poultices and fomentations, even when destitute of stimulating properties. I may likewise here state, upon the authority of a Spanish lady (with whom I conversed on this subject a few days ago), that in Cadiz women are in the habit of bringing back the milk to their breasts after it has left them in consequence of weaning the child, or of any other cause, by means of drinking an infusion of the wild lupin (*altramuz*), and applying to the mammæ fomentations made with the same plant. This plant has no stimulant or irritative quality, and the efficacy of the poultices made with it must, as in the case of the fig-leaves, depend simply on heat and moisture, as in a common poultice. The internal use of the infusion might be dispensed with.—*Association Medical Journal.*

Remarks on Acute Hypertrophy of the Mammæ. By J. Adair Lawrie, M. D., Prof. of Surgery in the University of Glasgow.—Hypertrophy of the mamma has been divided into the false and the true. In the false the gland is either not increased in size, or is atrophied, while the reticular adipose and other tissues are inordinately augmented. This form is chronic, and is usually met with in females of from forty to sixty years of age. The true has been variously subdivided into—that occurring at puberty; in the adult; the acute; and the chronic. The first is very often vicarious of menstruation. Of its chronic form, examples are given by Sir A. Cooper, under the name of "large and pendulous breast," and by Mr. Hey of Leeds. Of the acute, terminating fatally, an instance is given in the *American Journal of Medical Science* for August, 1834, p. 374. That case resembles the one now detailed in this, that the ovaries were enlarged, and apparently diseased, and that the uterus gave evidence of recent acute inflammation; but it differs from it essentially in this, that the cause of death was superficial sphacelation of the left breast, the result of a recent injury. In the fourth vol. *British and Foreign Medical Review*, is a notice of a paper by Dr. Fingerhuth, of Esch, on hypertrophy of the mammary gland. This paper (I have not seen the original) seems to contain valuable information on the history, symptoms, and pathology of the disease. So far as I can gather, however, it contains no case similar to the present; and although Mr. Birkett, in his Treatise on "Diseases of the Breast," quotes Dr. Fingerhuth's cases as examples of "true hypertrophy in the adult," it is expressly stated in the *Review*, that "the disease always makes its ap-

pearance at the period of puberty, and is contemporary with the development of the mammæ; either the patient has never menstruated, or the catamenia are scanty, and soon disappear." All the cases quoted are at or about the age of puberty. Dr. Rasi, an Italian physician, gives a case in which hypertrophy seems to have taken the place of lactation in a woman aged nineteen. The disease was resolved, but recurred in several successive confinements, proving fatal in the sixth, on the 14th day. On the whole, then, so far as I have been able to discover, the case now detailed is unique in the following respects:—It occurred in a woman aged thirty, without any acknowledged or ascertained cause; it affected both mammæ; it ran a rapidly acute course, resisting all remedies, and terminating fatally in forty days; and it presented appearances in the ovaries and liver, not hitherto observed in any case of hypertrophy of the mammæ.

The morbid appearances, as ascertained after death, are highly interesting, and in some respects peculiar. The dilated acini seem to have contained an unusual excess of epithelial cells, and granular exudation, especially the former. The large amount of exudation under the skin, and between the tubes and ultimate lobules of the gland, and the absence of fat, appear also to be uncommon; at least, they differ essentially from Dr. Fingerhuth's observations, in which it is stated, "the cellular tissue is loose, the cells larger than natural, and containing a remarkable quantity of fat."

The state of the liver and ovaries is certainly not the least interesting point in this remarkable case. Dr. Aitken, in some valuable notes which he kindly sent me, considers the epithelial deposits in the mammary acini as "degenerate;" that they had "a malignant tendency," were absorbed, and caused the deposits in the liver, and the softening of the ovaries. In this view, with all deference, I cannot altogether concur. I see no evidence of malignancy. I am rather disposed to consider them as analogous to, or possibly the second stage towards the formation of those circumscribed abscesses which are so frequent a cause of death in surgical and obstetrical practice. The present is not a fitting opportunity for entering upon this "*vexata questio*," but I may be allowed to say, that I am one of those who deny that these secondary abscesses are always connected with phlebitis, and uniformly depend on purulent infection. I think I have met with them where there was no wound of the skin. Certainly I have found them connected with wounds of all sizes, and in all states or stages. In the case before us, the substance of the mammæ was penetrated with an exploring needle three times. Were these deposits in the liver, and softening of the ovaries, an instance of that rare form of secondary disease (or surgical fever, as some style it), in which there is no lesion of the surface, or were they examples of its common form, and caused by the exploratory punctures? That they were one or the other of these appears to me but too probable.

The causation of the disease is obscure. The state of the uterus rather confirms my suspicions that sexual excitement was its starting point. But why so rare a consequence from so common an antecedent? —*Glasgow Medical Journal.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT.

The American Medical Association held its sixth annual meeting on Tuesday, May 3d, in the Presbyterian Church, Bleecker-street, the President, Dr. Beverley Wellford, of Virginia, in the Chair. The morning was occupied by the Committee of Arrangements, in receiving delegates from the several States. At half-past 11 A. M., the President declared the meeting organized, and welcomed the delegates to the city. There were nearly five hundred gentlemen present.

Dr. F. Campbell Stewart, Chairman of the Committee of Arrangements and Reception, before reading the list of delegates, congratulated the Association upon the recurrence of its anniversary; he assured them that their advent had been looked for anxiously, and their colleagues had been desirous to manifest their appreciation of the course in which they were engaged, and their estimation of the favor conferred by the Association in selecting this metropolis as the place for holding the present session. In the name of the united Profession of New-York, the Committee tendered them a sincere, hearty, and cordial welcome to our city.

Dr. S. then called over the list of delegates who had registered their names, and announced that a majority were present.

The Vice-Presidents and Ex-Presidents of the Association were requested to take their seats on the platform with the President.

On motion, a recess of fifteen minutes was taken to allow the delegates to select one of their number from each State, as a committee to nominate officers for the ensuing year.

The following gentlemen were selected as the Nominating Committee:

District of Columbia, Thomas Miller; Illinois, N. S. Davis; Massachusetts, A. L. Peirson; Connecticut, Archibald Welch; Ohio, R. L. Howard; New Jersey, Lewis Condict; South Carolina, H. R. Frost; Pennsylvania, F. West; Vermont, E. S. Carr; Tennessee, J. B. Lindsley; Missouri, C. A. Pope; New Hampshire, J. Crosby; Michigan, H. Taylor; Rhode Island, H. Allen; North Carolina, J. G. Tull; Indiana, Joseph Somes; Delaware, H. F. Askew; Alabama, J. A. English; Maryland, Joel Hopkins; Iowa, J. C. Hughes; New York, Joseph M. Smith; Georgia, H. F. Campbell; Kentucky, J. B. Flint; Maine, Isaac Lincoln; Virginia, T. P. Atkinson.

Dr. Atlee, of Pennsylvania, moved that immediately after the report

of the Nominating Committee, the President be called upon to read his address, but, at the request of Dr. CONDIE, withdrew his motion until the report of the Treasurer should be read.

Dr. POPE, of Missouri, extended an invitation to the Association to hold their next annual meeting, for 1854, at St. Louis.

Dr. CONDIE, of Pennsylvania, said he was instructed to invite the Association to hold their next annual meeting in Philadelphia.

Dr. HAYS, of Pennsylvania, although desirous that the Association should meet in Philadelphia, was forced to give his voice for next year in favor of St. Louis. He hoped that, at their next meeting, the claims of Philadelphia would be remembered.

The motion to meet at St. Louis was put and carried.

Dr. CONDIE, of Pennsylvania, Chairman of Committee on Publications, submitted a Report from the Committee, with resolutions appended, making the assessment for the present year $5; authorizing the committee to decide upon the terms at which the volume of Transactions for this year shall be furnished; and further authorizing them to take such measures in relation to the disposal of the copies as they may deem expedient, and that it should be their duty to inform the members of the terms agreed upon by a circular. Dr. CONDIE stated that a valuable paper would be submitted at this meeting, the mere illustrations of which would cost $1,000 for printing and coloring.

The resolutions were adopted.

The Treasurer's Report showed the total receipts for the past year to be $1,905; paid out $2,015; balance due to Treasurer, $110.

On motion of Dr. CONDIE, the Committee was authorized to furnish the Chairman of Committees on Epidemics with extra copies of their reports, respectively, at the expense of the Association, the number of said extra copies not to exceed one hundred.

The Secretary read communications inviting the Association to visit University Medical College, the collection of Anatomical and Pathological models of Messrs. J. C. & D. Hyatt, the surgical instrument establishment of Mr. Tieman, and the Bloomingdale Lunatic Asylum.

Dr. F. C. STEWART presented a report, recommending the admission of Dr. Marshall Hall of London, Surgeons Mower and Simpson, U. S. A., Surgeons Bache, Pinkey and Brownell, U. S. N., Drs. Leonard and Betton, Florida, Hon. Dr. Bartlett, N. Y. Senate, Dr. Harris, California, Dr. Hodder, Canada West, Drs. McIlvaine and Pitman, American Medical Society, Paris, to participate in the proceedings by invitation.

On motion of Dr. Cox, of Maryland, a committee was appointed to wait on Dr. Marshall Hall, and conduct him to a seat on the platform.

The PRESIDENT then read a long and very able address, reviewing the origin, progress, and benefits achieved by the Association.

Dr. HAYS, of Pennsylvania, moved the thanks of the meeting be presented to the President for his elegant, appropriate and eloquent address, and requesting a copy for publication in the Transactions of the Association. Carried.

The Secretary read a resolution passed by the Medical Society of Virginia, recommending the appointment of a well-qualified chemist to

analyze the most prominent nostrums of the day, and publish the results monthly in the leading newspapers of each State. Also a communication from the President of the American Medical Society at Paris, appointing Drs. Pittman, Walton and McIlvaine to attend this meeting.

On motion of Dr. ATLEE, the Committee on Publications were directed to send a full set of the Transactions of the Association to the Society in Paris.

A communication was received from Dr. RAMSEY, of Georgia, inclosing documents on personal matter, which, on motion of Dr. Leving, of South Carolina, were laid on the table.

Dr. JOSEPH M. SMITH, Chairman of the Committee on Nominations, reported the following officers for the ensuing year,—

For President—Dr. JONATHAN KNIGHT, of Conn.

Vice-Presidents—Drs. USHER PARSONS, of R. I.; LEWIS CONDICT, of N. J.; HENRY R. FROST, of S. C.; R. L. HOWARD, of Ohio.

Secretaries—Drs. EDWARD L. BEADLE, of N. Y., and EDWIN S. LEMOINE, of Mi-souri.

Treasurer—Dr. FRANCIS CONDIE, of Penn.,—who were unanimously elected.

The committee reported St. Louis, Mo., as the place to hold the next annual meeting.

The report was adopted.

Drs. GOOCH, WATSON and ATLEE were appointed a Committee to conduct the President elect and other officers to their seats.

Dr. KNIGHT, on taking the Chair, returned thanks for the honor conferred on him.

Dr. ATLEE, of Pennsylvania, moved a vote of thanks to the late President, Dr. WELLFORD, for his dignified, courteous and efficient manner in the Chair. Carried unanimously, the members rising.

A vote of thanks was also passed to the retiring Secretary, Dr. GOOCH.

On motion of Dr. HOPKINS, of Maryland, it was resolved that no member speak more than ten minutes on any subject at one time, nor more than twice on the same subject.

Dr. CONDIE proposed to amend the resolution of Dr. Hopkins, by prohibiting any member from speaking more than twice on the same subject, unless by permission, but without restriction as to time.

Dr. COX, of Maryland, moved to amend, by substituting fifteen minutes for ten.

The amendments were lost, and the original resolution carried.

Dr. STEWART, on part of Committee on Arrangements, suggested that the Association meet each day from 9 to 12 A. M., and from 1 to 4 P. M.

On motion of Dr. GOOCH, the meeting adjourned to 9 A. M., Wednesday.

Wednesday, May 4th.—The Association met at 9 A. M., J. Knight, M. D., President, in the chair. A large attendance of delegates.

The Secretary read the minutes, which were adopted.

Dr. Cox, of Maryland, moved for a reconsideration of the vote adopt-

ing the minutes, to allow of a correction in the Special Report of Committee of Arrangements, inviting Drs. Pinckney and Bache, U. S. N., to take part in the proceedings. These gentlemen had a right to sit as delegates from the Army and Navy. Dr. Pinckney has twice represented the naval body in the Convention as delegate, and without any question. As the gentleman was so admitted at Richmond, he would move to have the record altered, and the mistake rectified.

Dr. STEWART read the article of the Constitution which refers to the delegation of members by recognized medical associations. The President stated that his opinion was, that the Committee of Arrangements had complied with the intent of the article.

Dr. WATSON, of New-York, stated they had always been received as delegates.

The motion to reconsider was put and lost.

Dr. Cox hoped the Association would not take any action that would give offence to the Army and Navy Medical Institutions. He moved that Drs. Pinckney and Bache be received as regular delegates.

Dr. PINCKNEY, U. S. N., asked to be heard, and claimed his right to a place as delegate and as permanent member, having been formerly received as such, and having signed the Constitution.

Dr. F. C. STEWART offered the following as an amendment to Dr Cox's motion:

Resolved, As the sense of this Association, that under its present Constitution delegates can be received from the U. S. Army and Navy Medical Staffs, when appointed by Chiefs of the Army and Navy Medical Bureaus.

The amendment was adopted.

Dr. STEWART, from the Committee of Arrangements, reported that several members had registered their names since the report of yesterday.

Dr. Cox, of Maryland, proposed Dr. Borland, of Arkansas, as a member by invitation.

Dr. COVENTRY, of New-York, moved for a suspension of the order of business, to take up the subject of proposed amendments to the Constitution.

Dr. CASH, of New-York, moved that the resolution be laid on the table, and the regular order of business be proceeded with. Carried.

On motion, the Secretary proceeded to call up reports for Special Committees.

Dr. C. D. MEIGS, of Philadelphia, presented a report on "Acute and Chronic Diseases of the Neck of the Uterus," with a request that it should be referred to Committee on Publication, without reading.

The report was adopted and referred.

Dr. CONDIE, of Pennsylvania, Chairman of Committee on Causes of Tubercular Diseases, stated that in consequence of his duties as Treasurer and Chairman of Committee on Publication, he had not been able to complete his report.

Dr. ATLEE (Pa.) moved that the explanation be accepted, and the Committee continued to the next session of the Association.

On the part of Dr. PORCHER, of South Carolina, Dr. CONDIE stated that he had sent to him the report of Committee on "Toxicological and

Medicinal Properties of our Cryptogamic Plants," but with the request that it should be left, for further additions, to the Committee. The Committee was continued.

Dr. G. EMERSON, of Pennsylvania, Chairman of Committee on "Agency of the Refrigeration produced through upward radiation of heat, as an exciting cause of Disease," presented his report, which was referred to Committee on Publication, and read an abstract.

Dr. H. F. CAMPBELL, of Georgia, presented a report on Typhoid Fever, which was referred to Committee on Publication.

Dr. Campbell said he was not aware, until too late an hour to do so, of the fact that a written synopsis of each report was required by the rules of the Association. If permission were granted, he would make a verbal one, and explain to the Convention the views he had taken regarding this class of fever. The permission was granted, after which the report was referred to the Committee on Publication.

Dr. ATLEE, of Pennsylvania, Chairman of Committee on Epidemics in New Jersey, Pennsylvania, Delaware and Maryland, said that the Committee were unable to report, in consequence of not receiving any communications from gentlemen in these States. The Committee had only received two communications—one from Philadelphia, and one from Franklin County, Pennsylvania. He called upon gentlemen practising in these States to furnish the Committee with the results of their experience.

Prof. PALMER, of Illinois, suggested that Dr. Atlee draw up a resolution requesting medical gentlemen to transmit information.

On motion of Dr. ATLEE, it was

Resolved, That the delegates from the different States be requested to designate some gentlemen from the States to which they belong, to co-operate with the Scientific Committees.

Dr. WELLFORD announced that Dr. Haxall, of Virginia, Chairman of Committee on Epidemics in Virginia and North Carolina, and Dr. Cain states that Dr. Bolling, of Alabama, Chairman of Committee on Epidemics in South Carolina, Georgia, Florida and Alabama, had resigned their seats as Chairmen of such Committees.

Dr. W. said that he had also received the resignation, this morning, of Dr. E. H. Barton, of New Orleans, as Chairman of the Committee on the Epidemics of Mississippi, Louisiana, Texas, and Arkansas. He has had no opportunity to fill up the vacancy, and therefore the Committee cannot report. Vacancy to be filled and Committee continued.

A letter was read from Dr. MENDENHALL, of Ohio, Chairman of Committee on the Epidemics of Ohio, Michigan and Indiana, naming his associates, and asking to be continued.

Dr. WORTHINGTON HOOKER, of Connecticut, Chairman of Committee on Epidemics of New England and New-York, asked that the Committee be continued.

Dr. JOHNSON, of Missouri, stated that Dr. Reyburn, Chairman of Committee on Epidemics of Missouri, Illinois, Iowa and Wisconsin, requested that his Committee be continued.

Dr. SUTTON, of Kentucky, presented a report on Epidemics of Tennes-

see and Kentucky, with an abstract, which was read by the Secretary, and the report referred to the Committee on Publication.

Dr. PITCHER, of Michigan, read at length a report on Medical Education, and concluded with the following resolutions:

Resolved, That the Association re-affirm its formerly expressed opinions, on the value and importance of general education to the student and practitioner of medicine, and that it would gladly enlarge its rules on this subject, so as to include the Humanities of the schools, and the Natural Sciences.

Resolved, That in the opinion of this Association, a familiar knowledge of the elements of Medical Science should precede clinical instruction.

Resolved, That in in order to accomplish the latter, the hospitals, when elevated to the rank of schools of practice, and the intelligent private preceptor, are the most efficient instrumentalities to be used for that purpose.

On motion of Dr. ATLEE, the report and resolutions were adopted.

Dr. JOSEPH M. SMITH, of New-York, Chairman of Committee on Prize Essays, reported that the Committee had received fifteen Essays, which they had critically examined, and that they had awarded the two prizes of one hundred dollars each to the Essays bearing the following titles: The first, entitled, "The Cell—its Physiology, Pathology and Philosophy; by WALDO J. BURNETT, M. D., Boston, Mass. "*Natura in minimis maxima est.*" The second, on the "Surgical Treatment of certain Fibrous Tumors of the Uterus, heretofore considered beyond the Resources of Art;" by WASHINGTON L. ATLEE, M. D., Philadelphia.—"*Palmam qui meruit ferat.*"

The Committee also stated that the following named papers are worthy of being honorably mentioned; 1st, On Erysipelatous Fever of the United States; 2d, On Chloroform; 3d, On Subacute functional disorders of the Urinary bladder of Females; and of three papers bearing the names of the authors, they asked that the authors of two of them, viz.: Dr. MARCH, of Albany, and Dr. BUCK, of New-York, be allowed to submit abstracts to the Association.

Dr. ALDEN MARCH, of New-York, made a verbal abstract of his paper on "Diseases of the Hip Joint," which was favorably reported on by the Committee, and on motion of Dr. A. SMITH, he was requested to read the paper, during the recess to-morrow, in Crosby-street Medical College.

Dr. March considers hip diseases as produced in the head of the bone by upward and inward pressure, from muscular action, against the acetabulum.

Prof. PALMER, of Chicago, moved the following:

Resolved, That this Association earnestly recommend to the local Societies in different portions of our country, to appoint Committees, whose duties it shall be to record the prevalence of epidemics or other diseases, and the general state of health in their respective localities, and to transmit said reports to the Committees of the Society on Epidemics, through the State Societies where they exist.

Resolved, That the Secretaries be requested to secure a wide publicity to the above resolutions, by such means as they may deem proper.

The resolutions were adopted.

Dr. ATLEE, Pa., called the attention of the Association to resolutions passed at the last annual meeting of the Association, for purchasing a suitable stone for the WASHINGTON MONUMENT.

Dr. BLATCHFORD, N. Y., offered the following:

Resolved, That the suggestions in the President's Address, touching the licensing power, be referred to a Committee of five, of which Dr. Wellford shall be the Chairman, to prepare some plan whereby the subject may be brought fairly before the profession, and, if deemed advisable, that the Legislatures of the several States may be memorialized to carry out the recommendations of this Association—the Committee to report at the next meeting of the Association.

Dr. GARNETT, Washington, D. C., proposed an amendment.

Dr. CASH, of New-York, moved to lay the resolution on the table, which was carried.

Afternoon Session.

The Association met at 1½ o'clock, P. M., the President in the Chair. The Secretary read an invitation from Dr. GRISCOM, to vist the New-York Hospital.

Dr. STEWART, on the part of the Committee of Arrangements, moved that Dr. Robert R. Kalley, of Beyroot, Syria, Dr. James G. Cooper, Washington Territory, and Dr. H. Williams, from Southern Illinois, be invited to take part in the proceedings. Carried.

The following resolutions, offered by Dr. CHARLES A. LEE, a permanent member, were read in his absence by the Secretary:

Resolved, As the sense of this Association, that those Medical Colleges which give two courses of lectures annually, each of which counts as a separate course, have virtually violated and forfeited their charters, which do not contemplate but one annual session (thus making two Colleges out of one).

Resolved, That the practice in question is calculated to lower the standard of attainment in the profession, and subjects those who countenance it to the imputation of acting from mercenary motives.

Resolved, That no delegates shall hereafter be received by this Association from any Medical Schools, which give two courses of lectures annually, each of which counts towards a degree.

On motion of Dr. ATLEE, of Pennsylvania, the resolutions were laid on the table.

Dr. STEWART read the following resolutions, offered by Dr. Stephen W. Williams, of Mass., a permanent member:

Resolved, That the thanks of this Association be presented to Dr. WINSLOW LEWIS, of Boston, a member of the Massachusetts Legislature, for the bill which he has presented and endeavored to sustain, providing that "no druggist, apothecary, or person engaged in manufacturing medicines, or compounds to be administered as medicines (except such as are published in standard works of chemistry, materia medica, or pharmacopœia), shall offer the same for sale in any way, till he has filed a complete recipe in English, sworn to before a legal authority constituted for such purpose."

2. *Voted*, That a Committee be appointed by this Association for the purpose of petitioning Congress and State Legislatures to enact regulations and laws similar to the above.

Also, as we are constantly called upon to deplore the ravages of death among the illustrious and worthy members of our profession throughout the United States,

Resolved, That a Standing Committee be appointed by this Association to procure memorials of the eminent and worthy dead among the distinguished physicians of our country, both within and without the pale of the Association, and present them to this Association for publication in their transactions.

The first resolution, relating to Dr. Lewis, was adopted.

To the second, Dr. Cox, Md., moved an amendment, not confining the memoirs to distinguished members of the Association.

Dr. MORGAN, of Washington, thought the Association would not be able to meet the increased expense such an addition to their transactions would cause. He moved to lay on the table. Carried.

Dr. G. BUCK, of New-York, read his paper "on the surgical treatment of morbid growths in the larynx," upon which the Committee had made a formal report, illustrating a case which had been under his care by means of the specimen and a wax model.

On motion, the paper was referred to Committee on Publication.

Dr. MITCHELL, of Pennsylvania, here proceeded to speak of the various difficulties and grievances under which the physicians and surgeons in the Navy labored, and recommended the Convention to take some measures for their relief. He concluded by presenting the following resolution, which was, after considerable discussion, adopted:—

Whereas, the claim of naval medical officers to defined rank, assimilated with the grades of officers of the line of the navy, has not yet been decided upon by Congress; therefore,

Resolved, That the President of this meeting appoint a committee of three, which is hereby instructed to communicate to Congress, through the presiding officer of each House, at the commencement of the next session, an expression of the interest felt by the American Medical Association of the United States for their professional brethren employed in the Navy, as set forth in the resolutions unanimously adopted at several sessions of this body.

Dr. JACKSON, of Philadelphia, seconded the resolution.

The PRESIDENT stated that the bill had passed one branch of our National Legislature.

Dr. PINCKNEY, U. S. N., made a statement of the action had in the National Legislature.

The resolution was put and adopted.

The Committee appointed consisted of the President, Dr. Mitchell, of Penn., and Dr. Stevens, of New-York.

The following resolution was presented by Dr. CHARLES HOOKER, of Connecticut, and adopted unanimously:—

Resolved, That the delegates from the several States be requested to appoint committees, who shall aid the Committee of Publication in procuring subscribers, and in distributing the Annual Transactions of this Association.

Dr. CONDIE moved that the Committee on Nominations be instructed to nominate the several Standing Committees as far as may be necessary; to report to-morrow. Adopted.

Dr. BOLTON, of Virginia, presented the following resolution:—

Resolved, That the medical department of the University of Michigan, by its co-operation with the efforts of this body to elevate the standard of medical education, especially in regard to its preliminary studies, and an extended term of instruction, has entitled itself to our warm commendation and hearty support.

Dr. COX, in reply to the above resolution, said he did not wish to cast the slightest imputation upon any school; neither did he desire to make invidious distinctions between any schools. He hoped that no such action would be taken as that proposed by the resolution.

Dr. W. Hooker said, in regard to this resolution, he believed that the University of Michigan had a high vocation in promoting the learning of medical science in this country; but he thought they would succeed better without the assistance of the Association. It would be to their credit and advantage to keep themselves from competition with the medical faculty throughout the land. If they are capable to perform this high vocation of themselves, then they need no advertisement from the Association.

The resolution was withdrawn.

The President said he had been informed that there was a man present, upon whom the difficult surgical operation of removing the lower jaw had been performed by Dr. Carnochan. It was decided, however, that he should not be presented at that time, as the attention of the meeting was devoted to other matters. The man was exhibited during the recess.

Dr. Mauran, of Rhode Island, presented a report from Dr. Simons, of South Carolina, chairman of a Committee appointed by the Association for that purpose, in relation to the necessity of each emigrant ship being provided with a surgeon, which was read by the Secretary.

The report was accepted, and the Committee directed to prepare a memorial to Congress.

A report was then presented from Dr. Simons, chairman of a Committee of the American Medical Association, to memorialize Congress in accordance with a resolution of Dr. Sutton, of Georgetown, Kentucky, to have the medical statistics of the United States census printed separately for the use of the medical profession.

This report was also accepted, and the Committee requested to prepare a memorial to Congress on the subject.

Dr. Stewart announced that two hundred copies of the Transactions of the New-York State Medical Society had been forwarded to the Secretary of the Association for distribution among the delegates from other States.

Dr. Peaslee, of New Hampshire, offered the following resolution, which he accompanied with a few brief and appropriate remarks:

Resolved, That it is the duty of the faculties to refuse to admit to examination, for the degree of Doctor, all persons who intend to engage in any other than the regular practice, and to give notice of this in their annual course of lectures.

Dr. Sayre said he thought the resolution was not calculated to effect the object it had in view. The best way, in his opinion, was to withdraw the diploma after it had been given, and in the event of its being used for the advancement of quackery. In conclusion he moved the following resolution as an amendment:

Resolved, That a committee be appointed to memorialize the several State governments, in reference to the subject of diplomas to medical men, and to petition them, in the name of the Association, for the passage of a law granting to chartered medical colleges the privilege of retracting publicly the diplomas of any of their graduates, when, in the judgment of the medical faculty of the college or school granting such diplomas or certificates, they may have forfeited a right to the same.

A warm discussion ensued, in which Drs. Hooker, of Conn., Atlee, of Pa., Peaslee, of N. Hampshire, and others, took part.

Dr. GOOCH moved that the whole subject be laid upon the table, to come up again before the meeting to-day. The motion was adopted, and the meeting soon after adjourned till 9 o'clock next morning.

Thursday, May 6th.—The Association met at 9 A.M., the President, Dr. J. KNIGHT, in the chair; a large attendance of members.

Dr. JOSEPH M. SMITH, of New-York, chairman of the Committee on Nominations, requested the Committee to meet at his residence, No. 56 Bleecker-street.

The Secretary read the minutes, which were approved.

Dr. STEWART, Chairman of Committee on Arrangements, reported the names of several delegates who had registered since last report.

Dr. W. HOOKER, of Connecticut, offered the following resolution, which was adopted:

Resolved, That a Committee of five be appointed, whose duty it shall be, in compliance with the suggestions of our late President, Dr. WELLFORD, to report upon plans of organization for State and County Societies, and that the Committee be requested to report, if possible, during the present meeting of the Association

Dr. ZEIGLER, of Pennsylvania, offered a preamble and resolutions on the necessity which existed for a more general, systematic, and speedy organization of State and County Medical Societies, together with a plan for such organizations.

Dr. CASH, of New-York, moved that the document be referred to the Committee on State and County Medical Societies. Carried.

The SECRETARY read a notice, requesting delegates from any States which were not represented on the Committee on Nominations, to elect representatives to sit with the Committee at 56 Bleecker-street.

Dr. N. S. DAVIS, of Illinois, reported at length, and lucidly, on the Medical Literature of 1852.

Report referred to Committee on Publication.

The SECRETARY read a communication from Robert Kelly, Esq., inviting the Association to visit the House of Refuge, for reformation of juvenile delinquents.

Dr. S. JACKSON, of Pennsylvania, stated that he had received a paper from one gentleman on Electricity, as applied to predictions of meteorological changes.

Dr. YANDELL, of Kentucky, offered the following preamble and resolutions, which were adopted by a rising vote:

Whereas, By the dispensation of an inscrutable Providence, Dr. DANIEL DRAKE has been removed since the last meeting of this Association, from the scene of his earthly labors,

Resolved, That in the death of Dr. Drake, the American Medical Association has lost one of its most honored members, and the American Medical profession one of its brightest ornaments.

Resolved, That his steady devotion to his profession through a long life, his zeal, activity, and unceasing efforts to advance its interests, afford an example worthy of the imitation of every young physician.

Resolved, That this Association will cherish the memory of Dr. Drake for his many virtues, and for his labors which have adorned and elevated our profession.

The President read a resolution, offered by Dr. CLEAVELAND, of Vermont, calling for the appointment of a Committee to investigate the value of Galvanism as a therapeutic agent.

On motion of Dr. GOOCH, the resolution was referred to Committee on Nominations.

Dr. WELLFORD, of Virginia, stated that the State of Louisiana was not represented, and moved that Dr. Douglass, of Louisiana, who was present, be invited to take his seat as a member by invitation from that State. Carried.

On motion of Dr. PARKER, of Virginia, the resolution offered yesterday from the Virginia Medical Society, recommending the appointment of a Chemist, and laid on the table, was taken up for consideration.

Dr. PARKER, of Virginia, offered the following as an amendment:

Resolved, That this Association recommend Congress to consider the propriety of passing a law compelling all importers of nostrums, to state upon all compounds thus imported, their true constituents, and in English.

Resolved, That the Secretary be instructed to forward a copy of these resolutions to the Executive of the General Government.

An amendment to strike out all after the word "English," was accepted.

After a discussion by Dr. BOND, of Maryland, Dr. W. HOOKER, of Connecticut, Dr. SAYRE, of New-York, Dr. COX, of Maryland, Dr. BOLTON, of Virginia, Dr. RICHARDS, of Ohio, and Dr. JACKSON, of Massachusetts, the resolutions were laid on the table.

Dr. CONDIE, of Pennsylvania, offered the following resolution:

Resolved, That we have heard with sincere regret of the death of our late fellow-member, Dr. ISAAC PARISH, of Philadelphia, who was distinguished by his early and earnest advocacy of the establishment of this Association, by his ardent interest in its proceedings, and by his valuable contributions to its published proceedings.

Dr. COX, of Maryland, moved the following:

Resolved, That in the demise of Dr. WILLIAM E. HORNER, which has occurred since the last annual session of this body, the American Medical Association has lost one of its illustrious and useful members; and the science of medicine an indefatigable student and most distinguished teacher.

Resolved, That the memory of the gifted subject of the resolutions, dear as it must ever be to the lovers of medical science universally, will be especially cherished by this Association, to whose great objects and aims his last efforts were, during life, promptly and liberally bestowed.

Both of these resolutions were adopted by a rising vote.

Dr. CONDIE, of Pennsylvania, replied to inquiries received, in reference to back numbers of the Transactions.

Dr. YANDELL, of Kentucky, presented a report received from Dr. S. D. Gross, Kentucky, on the results of surgical operations for the relief of malignant diseases, which was referred to a Committee on Publication. Dr. G. read a brief abstract.

Dr. GOOCH called up the subject of the graduating pledge, proposed by Dr. Peaslee, of New Hampshire, last evening, and laid over, and proposed the following resolutions:

Resolved, That this Association earnestly recommends to all the respectable Medical Colleges of the United States to administer to their graduates, previous

to their receiving the diploma, some pledge that they will maintain, to the best of their abilities, the honor and dignity of the profession; and that they will forfeit their degrees, whenever they desert the orthodox system of medicine.

Resolved, That the schools be urged not to graduate any man without requiring him to read the National Code of Ethics, and publicly give his consent to abide by it, and that they will reserve to themselves the right to withdraw the diploma, publicly, whenever *the graduating* pledge has been violated.

There were, said Dr. G., two schools which had already adopted such rules. Unfortunately, as things stood, gentlemen were allowed to graduate on payment of their fees, without knowing there was such a thing as a "Code of Ethics" in existence, and permitted to go forth among medical men as their equals in practice. The consequence was, systems of quackery, and want of proper *esprit du corps* among members of the profession, in many instances.

Dr. GARNETT, of Washington, spoke to the resolution.

Dr. ATKINSON, of Virginia, inquired, how the diploma could be withdrawn?

Dr. GOOCH replied that the diploma could be always withdrawn, if given under these conditions.

Dr. JOHN H. PHILLIPS, of New Jersey, offered the following amendment:

Resolved, That it is the duty of all Boards of Examiners, to whom candidates may apply for examination or approval, to admit none but those who give satisfactory evidence of a good preliminary education, and that a regular Course of Medical Practice will afterwards be pursued, and who shall subscribe to the Code of Ethics adopted by this Association.

Dr. COX, of Maryland, thought the resolution contemplated an extraordinary act of legislation, and there would be great difficulty in applying the principle. The power of revoking a diploma, once given under the legal sanction of a charter, was a dangerous one to be intrusted to any set of men.

Dr. ATKINSON, of Virginia, thought that, until the millenium, quackery would exist in the profession to some extent, and it was vain to legislate against it.

On motion of Dr. SAYRE, of New-York, the Association took a recess for one hour, without disposing of the resolution.

Afternoon Session.

The Association was called to order at 1½ P. M.

Dr. COVENTRY, of New-York, moved to lay all other business on the table and take up the proposed amendments of the Constitution, which was lost.

The consideration of Dr. GOOCH's resolution and the amendment thereto was resumed.

Sundry amendments were proposed by Drs. CARR, of Vermont, DOVE, of Virginia, and STILLÉ, of Pennsylvania, when, on motion of Dr. GOOCH, the whole subject was referred to a special Committee of three, to report during the present session.

The President appointed Drs. Gooch, Phillips and Stillé as Committee.

Dr. STEWART, on behalf of Committee of Arrangements, reported the names of delegates who had registered since last report, and recommending to invite Dr. Harvey P. Peet, Institution for Deaf and Dumb, and Dr. W. C. Butler, to take seats in the Association. Accompanying was a letter from Dr. Thomas Spencer, of New-York, asking to be allowed to read a paper on the atomic theory of life and vital heat, as applicable to pathology; Dr. S. also stated that Drs. J. H. Griscom and J. L. Phelps, of New-York, have applied for permission to read papers before the Association.

The Committee also recommended that, when the Association adjourn, it should be to Saturday morning.

The report was accepted and adopted, except as relates to the time of adjournment.

Dr. BLATCHFORD, of New-York, moved to have a resolution, offered yesterday, on the licensing power, with amendments by Dr. Garnett, taken up for consideration.

After discussion by Drs. W. HOOKER, of Connecticut, JOHNSON, of Missouri, and ATLEE, of Pennsylvania, on motion of Dr. ATLEE, the whole subject was referred to a Committee to report at the next meeting.

The subject was referred to the following Committee: Drs. Wellford, of Virginia; Samuel Jackson, of Pennsylvania; T. W. Blatchford, Johnson, of Missouri; and Peaslee, of New-Hampshire.

Dr. T. W. BLATCHFORD, of New-York, proposed the following resolution:—

That a committee of five be appointed, of which Dr. J. O. Edwards, of Ohio, shall be chairman, whose duty it shall be to report on the best mode of preventing the domestic adulteration of drugs. The Chair appointed Dr. Edwards, Drs. Wood and Carson, of Philadelphia, Dr. C. T. Jackson, of Boston, and Dr. J. H. Griscom, of New-York.

Dr. JOSEPH M. SMITH, of New-York, read the following:—

Report of Committee on Nominations.

The Committee on Nominations, in fulfilling the duty of their appointment, propose to continue most of the Special Committees appointed by the Association, in May, 1851, and May, 1852, and to appoint several new Special Committees. They, therefore, submit the following list of Chairmen of Special Committees, with the subjects to them committed:

1. Dr. D. F. Condie, of Philadelphia, Penn., "On the Causes of Tubercular Disease."
2. Dr. James Jones, of New Orleans, La., "On the Mutual Relations of Yellow and Bilious Remittent Fevers."
3. Dr. R. S. Holmes, of St. Louis, Mo., "On Epidemic Erysipelas."
4. Dr. Geo. B. Wood, of Philadelphia, Penn., "On the Diseases of Parasitic Origin."
5. Dr. R. D. Arnold, of Savannah, Ga., "On the Physiological Peculiarities and Diseases of Negroes."
6. Dr. James R. Wood, of New-York, "On Statistics of the Operation for the removal of Stone in the Bladder."

7. Dr. F. Peyre Porcher, of Charleston, S. C., "On the Toxicological and Medicinal Properties of our Cryptogamic Plants."

8. Dr. Goodrich A. Wilson, of Virginia, "On Cholera, and its Relation to Congestive Fever—their Analogy or Identity."

9. Dr. Worthington Hooker, of Connecticut, "On Epidemics of New England and New-York."

10. Dr. John L. Atlee, of Lancaster, Penn., "On Epidemics of New Jersey, Pennsylvania, Delaware and Maryland."

11. Dr. D. J. Cain, of Charleston, S. C., "On Epidemics of South Carolina, Florida, Georgia, and Alabama."

12. Dr. W. L. Sutton, of Georgetown, Ky., "On Epidemics of Tennessee and Kentucky."

13. Dr. Thomas Reyburn, of St. Louis, Mo., "On Epidemics of Missouri, Illinois, Iowa and Wisconsin."

14. Dr. George Mendenhall, of Cincinnati, Ohio, "On Epidemics of Ohio, Indiana and Michigan."

15. Dr. E. D. Fenner of New Orleans, La., "On Epidemics of Mississippi, Louisiana, Texas and Arkansas."

16. Dr. Chas. A. Lee, of New York, "On Domestic Hygiene."

17. Dr. Daniel Brainard, of Chicago, Ill., "On the Constitutional and Local Treatment of Carcinoma."

18. Dr. N. S. Davis, of Chicago, Ill., "On the Influence of Local Circumstances on the Origin and Prevalence of Typhoid Fever."

19. Dr. Geo. Engelman, of St. Louis, Mo., "On the Influence of Geological Formation on the Character of Disease."

20. Dr. Henry M. Bullitt, of Louisville, Ky., "On the Use and Effect of Applications of Nitrate of Silver to the Throat, either in Local or General Disease."

21. Dr. Robert F. Campbell, of Augusta, Ga., "On the Pathogenic Influence of Feather Beds."

22. Dr. James Bolton, of Richmond, Va., "On the Administration of Anæsthetic Agents during Parturition."

23. Dr. Henry Taylor, of Mount Clemens, Mich., "On Dysentery."

24. Dr. F. Donaldson, of Baltimore, Md., "On the Present and Prospective Value of the Microscope in Disease."

25. Dr. R. L. Howard, of Columbus, Ohio, "On the Pathology and Treatment of Scrofula."

Committee on Plans of Organization for State and County Societies—Isaac Hays, M. D., of Pennsylvania, Chairman; Worthington Hooker, M. D., of Connecticut; Josiah Andrews, M. D. of Michigan; B. R. Wellford, M. D., of Virginia; A. L. Peirson, M. D. of Massachusetts.

Committee on Medical Literature—T. S. Bell, M. D., of Kentucky, Chairman; Samuel H. Pennington, M. D., of New Jersey; Ed. M. Parker, M. D., of New Hampshire; William K. Bowling, M. D., of Tennessee; Zina Pitcher, M. D., of Michigan.

Committee on Medical Education—B. R. Wellford, M. D., of Virginia, Chairman; Resign Lowe, M. D., of Iowa; Lyndon A. Smith, M. D., of New Jersey; Jacob Bigelow, M. D., of Massachusetts; L. A. Dugas, M. D., of Georgia.

Committee on Volunteer Communications—Drs. C. A. Pope, Thos. Reyburn, John S. Moore, J. B. Johnson and A. Litton, of St. Louis, Mo.

Committee of Arrangements—Drs. J. R. Washington, J. S. Moore, S. Pollok, Thomas Reyburn, J. O'Farrar, W. M. McPheeters, C. W. Hempstead and E. S. Lemoine, of St. Louis, Mo.

Committee on Publications—Dr. D. F. Condie, Pennsylvania, Chairman; Dr. E. L. Beadle, of New York; Dr. A. Stillé, Pennsylvania; Dr. I. Hays, Pennsylvania; Dr. E. S. Lemoine, of Missouri; Dr. G. Emerson, Pennsylvania; Dr. G. W. Norris, Pennsylvania.

On motion of Dr. WATSON, of New-York, the name of the Committee on Volunteer Communications was changed to that of Committee on Prize Essays.

Dr. WELLFORD resigned his place as Chairman of Committee on Medical Education, and the President was authorized to fill the vacancy.

The vacancy was subsequently filled by the appointment of Dr. J. L. Cabell, of the University of Virginia.

On motion of Dr. ATLEE, the subject of proposed amendments to the Constitution was taken up, and the original articles, with proposed amendments, read by the secretary.

Dr. STEVENS, of New-York, moved an indefinite postponement of the whole subject of amendments to the Constitution.

Dr. ATKINSON, of Virginia, moved to have the amendment, proposing to admit delegates from the United States Army and United States Navy, excepted from motion to postpone.

After some discussion by Drs. COOLIDGE, of U. S. Army, BOLTON and ATKINSON, of Virginia, COVENTRY and STEWART, of New York, the amendment of Dr. Atkinson was adopted.

Dr. BOLTON, of Virginia, gave notice that at the next meeting of the Association, at St. Louis, he would propose the adoption of the amendments to the Constitution, submitted to this Association by the meeting at Richmond last year, and which have been here indefinitely postponed.

Dr. CONDIE proposed the following resolution, which was adopted:

Resolved, That the second clause of Article 2 of the Constitution be so amended as to admit the American Medical Society in Paris to representation in this body upon the same terms as the medical bodies in this country.

Dr. ALFRED STILLÉ, Chairman of the Committee to whom was referred sundry memorials touching the course to be pursued by Medical Colleges and other Boards in the examination of candidates and the granting of diplomas, reported, submitting the following resolution for adoption:

Resolved, That in order to preserve the purity and honor of the Medical Profession, and to place around young practitioners additional safeguards against temptations to do wrong, as well as to draw a more distinct line of separation between true and false physicians, it be and is hereby recommended, that every graduate in Medicine be required to subscribe a pledge to submit to the revocation of his diploma upon conviction of having knowingly violated the Code of Ethics of this Association. It is also recommended to the several Medical Colleges and such other Boards as are by law authorized to examine candidates for admission into the Medical Profession to require from every graduate or licentiate his signature to the Code of Ethics of this Association, and to furnish him with a copy of the same. It is further recommended that the formal administration of a pledge, faithfully to observe and keep the said Code, form part of the public exercises of Medical Commencements.

The following form of promise was among the documents referred to Committee on Pledge:

I, A. B., of ——, in the State of ——, do hereby promise, on the honor of a gentleman, that I will conform strictly to the Code of Ethics of this my Alma Mater, in all things pertaining to the practice of my profession; and, when I shall fail to do so, I hereby grant to the Faculty of said School full power and authority to withdraw said Diploma, and all the rights and privileges which it is intended to confer.

Dr. PALMER, of Chicago, and other delegates opposed that part of

the report proposing to clothe colleges with the power of revoking diplomas for a breach of the "Code of Ethics."

Several motions and countermotions were made. The chairman decided on the right of the committee to withdraw the objectionable resolution, when the second and third recommendations of the report were adopted.

Dr. SAYRE, of New-York, moved that the resolution withdrawn be taken up, and passed as the sense of the meeting. It was taken up, and referred to the committee on the licensing power, of which Dr. WELLFORD is chairman.

Dr. PARKER, of Virginia, moved the following, which was adopted:

Resolved, That the Standing Committee, of which Dr. BOLTON is chairman, be instructed to inquire into all cases of death that may be reported as occurring from the use of anæsthetic agents during the present year in the United States, and report to the next meeting of the Association.

Dr. ZEIGLER, of Pennsylvania, moved the following, which was laid on the table:

Resolved, That a committee of three or more be appointed by the President, to devise or consider some comprehensive plan or system by which subjects connected more especially with Medical Science can be more speedily, systematically, generally and thoroughly investigated and examined.

On motion of Dr. RODDEY, of Virginia, the resolution of Dr. ZEIGLER was taken up, and referred to a committee, consisting of Drs. ZEIGLER, RODDEY and JACKSON, of Pennsylvania.

Dr. MILTENBERGER, of Maryland, offered the following resolution, which was seconded by Dr. ATLEE, and unanimously adopted:

Resolved, That the cordial thanks of the American Medical Association be, and they are hereby tendered to the Committee of Arrangements, the profession and the citizens generally of New-York, for the generous and elegant hospitality extended towards its members during its present session.

Dr. CAMPBELL, of Georgia, submitted a paper, on a question of priority, in reference to the discovery of the reflex relation subsisting between the cerebro-spinal and sympathetic system of nerves.

Referred to Committee on Publication.

Dr. W. HOOKER, of Connecticut, proposed a vote of thanks to the officers of the public institutions which had been thrown open for members of the Association during their stay.

Dr. BOLTON, of Virginia, moved the thanks of the Association to the Press of this city, for its accurate reports of their proceedings.

Dr. COX, of Maryland, proposed a vote of thanks to the officers of the Association, for the very able manner in which they have discharged their duties.

On motion, it was resolved to meet on board the steamboat, at foot of Pier No. 3, to-morrow morning, at 9 o'clock, and proceed to visit the public institutions belonging to the city of New-York.

The President congratulated members on the close of their deliberations, and expressed his wish that they should have a safe return to their homes, and should all meet at St. Louis next year.

The Association then adjourned *sine die*.

At a large meeting of the guests of the "Committee of Arrangements and Reception" of New-York (members of the American Medical Association), assembled on the steamer "Hero," on return from the public institutions of New-York, on Friday, May 6th, 1853, Dr. WORTHINGTON HOOKER, of New Haven, was called to the chair, and Dr. GOOCH, of Virginia, was made Secretary.

On motion of Dr. J. B. BIDDLE, of Pennsylvania, the following resolution was unanimously adopted;

Resolved, That the thanks of this meeting are hereby tendered to the Committee of Arrangements, for the agreeable excursion to-day, and especially to Drs. F. C. Stewart and J. H. Griscom, the chairman and sub-chairman.

Dr. J. L. ATLEE offered the following:—

Resolved, 1. That the cordial thanks of this meeting are presented to the Governors of the Alms-House for the kindness, courtesy and generous hospitality, which we have experienced in our visit this day to the public institutions of the city of New-York.

Resolved, 2. That our thanks are also tendered to the Commissioners of Emigration and the officers of the other institutions which were thrown open to us, for their kindness in facilitating the examination of these admirable and philanthropic establishments.

The resolutions were passed by acclamation, and it was ordered that certified copies of these proceedings be published in the New-York papers.

The meeting then adjourned.

WORTHINGTON HOOKER, of Ct., Chairman.

P. CLAIBORNE GOOCH, of Va., Secretary.

At a meeting of the Committee of Arrangements and Reception of the American Medical Association, held on the 13th of May, 1853, the following resolutions were unanimously adopted:—

Resolved, That the thanks of the Medical Profession of New-York City, as represented by the Committee of Arrangements and Reception of the American Medical Association, be and they are hereby tendered—

To the Hon. Hamilton Fish and ex-Mayor Ambrose C. Kingsland, for their kindness and courtesy in extending the hospitalities of their mansions to the Delegates to the late meeting of the Association,—

To the "Governors of the Alms-House," and the "Commissioners of Emigration," for the facilities afforded the members of the Association for inspecting the Hospitals, and other interesting public establishments under their care, and for their liberal hospitality in providing entertainment for our late guests,—

To the officers and proprietors of the several public and private institutions of the city and vicinity for numerous acts of kindness and attention to our colleagues from abroad,—

To the Editors and Reporters of the City Press for the impartial and generally accurate reports of the proceedings of the Association published in their papers.

Resolved, That authenticated copies of these resolutions be transmitted to ex-Governor Fish, ex-Mayor Kingsland, the President of the Board of Governors of the Alms-House, and the President of the Board of Commissioners of Emigration, and that the same be published in the city papers.

F. CAMPBELL, STEWART, M. D.
Chairman Committee of Arrangements and Reception.

ROBERT WATTS, M. D., Secretary.

The following resolutions were passed on the occasion of the Norwalk catastrophe:

At a special meeting of the American Medical Association, held on the 12th of May, in the "Bleecker Street Presbyterian Church," Dr. Joseph M. Smith, of New-York, was called to the Chair, and Dr. E. L. Beadle, one of the Secretaries of the Association, requested to act as Secretary.

Dr. Smith, on taking the Chair, stated that, by the request of a number of the members of the Association, the Secretary had called this meeting of the delegates resident in the city and its vicinity, and such as were remaining here from abroad, for the purpose of expressing their feelings respecting the late disaster on the New-Haven Railroad at Norwalk, in Connecticut, which resulted in the death of so many valued members of the Association; and that it was now for the members present to adopt such measures as they saw fit, to carry out the object in view.

Dr. Wm. Rockwell, of New-York, moved that a committee be appointed to draught resolutions expressive of the sentiments of the Association. Resolution was adopted; and the Chair appointed the following gentlemen to act as committee: Drs. John H. Griscom, of New-York; S. Hanbury Smith, of Ohio; P. Claiborne Gooch, of Virginia; L. A. Smith, of New-Jersey; Theo. Goodloe, of Alabama; R. La Roche, of Pennsylvania; John Watson, of New-York.

The Committee retired, and on their return presented the following:

Whereas, amidst the wide-spread affliction caused by the recent catastrophe at Norwalk, Connecticut, the members of the American Medical Association, recognizing in this mournful event the hand of an all-wise Providence, feel called upon to express their grief at the sudden removal from life of Abel L. Peirson, M. D. of Salem, Massachusetts; Archibald Welch, M. D., of Hartford, Connecticut; Josiah Bartlett, M. D., of Stratham, New-Hampshire; Samuel Beach, M. D., of Bridgeport, Connecticut; James M. Smith, M. D., and James H. Gray, M. D., of Springfield, Massachusetts; Wm. C. Dwight, M. D., of Moscow, Livingston County, New-York, late members of the Association; and whereas it is the earnest desire of the members still present in the city of New-York to record a suitable expression of their feelings upon an occasion equally unprecedented and distressing; therefore,

Resolved, That the members have received with profound sorrow the lamentable intelligence of the loss which the community, as well as the profession, has sustained by the death of so large a number of their fellow members of the American Medical Association.

Resolved, That as a suitable though inadequate external mark of their grief at the sudden demise of friends from whom they had so recently parted, the members of the Association in general are recommended to wear the usual badge of mourning for the space of thirty days.

Resolved, That the members of the Association most deeply sympathize with the relatives of the deceased in their bereavement, and that a copy of these resolutions, duly authenticated, be transmitted to their respective families.

Your Committee further recommend that a committee of seven be appointed to devise some suitable method of commemorating the event,

and the worth, and professional character of our lamented associates; and to recommend said plan to the next annual meeting of the Association.

On motion of Dr. Rockwell, of New-York, seconded by Dr. J. R. Wood, the report of the Committee was accepted, and the preamble and resolutions adopted.

The recommendation contained in the report was also adopted, and the following committee appointed: Joseph M. Smith (chairman, on motion of Dr. Watson), Drs. F. Campbell Stewart, J. W. G. Clements, William Rockwell, Isaac E. Taylor, Edward L. Beadle, and John Watson.

Dr. Gooch, of Virginia, moved, That the Secretary be instructed to transmit the minutes of this meeting to the Committee of Publication.

On motion, it was resolved, that the proceedings be signed by the Chairman and Secretary, and published in the daily papers.

The meeting then adjourned.

JOSEPH M. SMITH, M. D., Chairman.

EDWARD L. BEADLE, M. D., Secretary.

Ovariotomy by a New Method—Recovery. By Professor R. L. HOWARD, M. D.—Miss R. J., æt. 17, of Franklin county, Ohio, consulted me in August last, on account of a tumor in the abdomen. She informed me that in March last she had an attack of measles, and recovered from the disease without any unusual symptoms. In May following she experienced a pain in her left side, which was persistent and crescent in its character. About the first of June she detected a "lump in the lower part of her bowels." This rather rapidly increased in size until the time of the consultation referred to. On examination I found a regular oval tumor filling the whole cavity of the abdomen, and distending to a considerable extent its walls. Obscure fluctuation revealed more or less fluid in the centre of the tumor. The hymen was absent, but the uterus was found, on examination per vaginam, to be in a healthy condition and unconnected with the diseased ovary.

On the 18th of September I visited Miss J., and found her laboring under considerable general disturbance and pain in the right side, apparently from the pressure of the tnmor. Her pulse was remarkably frequent, beating some 130 to 140 per minute. The symptoms being of a distressing character, rapidly becoming worse, I, in consultation with Drs. G. W. and J. Helmick, decided to tap the humor. On introducing the trochar, about a gallon of very thick albuminous fluid escaped, which completely relieved the patient of all her urgent symptoms. She remained quite comfortable for about two weeks, when the rapidly accumulating fluid and the increase in the solid growth, caused a return of all the distressing symptoms.

On the 8th of October I tapped her again, drawing off about the same quantity of fluid, with precisely similar results; but in a few days the tumor could be observed to grow from day to day, and it became evident that something more effectual must be done, if the life of the

patient was to be rescued from the fatal result that awaited the progress of the disease.

On the 14th of October a consultation was held with the attending physicians adverted to, and several leading physicians of Columbus, all of whom, without a dissenting voice, approved of an operation for the removal of the tumor at once.

The proper arrangements being made, and the patient placed upon a table, and fully under the influence of chloroform, I made an incision from three inches above the umbilicus on the linea alba to the pubis, dividing the integument, fascia, tendon and peritoneum. The ovarian tumor was fortunately found free from adhesions, but its attachments to the uterus, &c., were rather extensive. I now adopted an expedient to which is due, *mainly*, the success of the operation. Fearing the effect of the ligature upon the delicate peritoneum, I divided it completely around the neck of the tumor upon a grooved director. In the groove or channel made by this dissection, I applied the ligature, which sunk deeply and readily into the loose cellular structures as I tightened the knot, without impinging in the slightest degree upon the contiguous peritoneum. The neck of the tumor was divided about one inch from the ligature, and the wound dressed in the ordinary manner. The whole operation was performed and the patient placed in bed without the least consciousness of pain on her part.

Since the operation not an unfavorable symptom has occurred. The ligature came away and the parts healed kindly; and now, December 9th, we believe she is perfectly well. I had omitted to mention that the patient had several attacks of intermittent fever in August and Sept., and that she had not menstruated for near three months before the tumor was removed. I have not learned whether her menses have returned since.

I desire to call the attention of surgeons to that part of the operation wherein the peritoneum was divided for the purpose of excluding it from the action of the ligature. I am not aware that the operation has ever been performed in this manner before, and yet it may have been, as I have not, on account of the pressure of my engagements, made myself familiar with the literature of Ovarian Surgery. I deem this step in the operation worthy of the highest consideration, and considering the proclivity of the peritoneum to inflammatory affections, particularly under the influence of mechanical injury, I am only surprised that this proceeding has not been universally adopted.—*Ohio Med. and Surg. Jour.*

MISCELLANEA.

Geneva Medical College.—Our readers will notice by reference to our advertising sheet, that a change has taken place in the period of session in this institution. The next regular course of lectures commences on the second Wednesday of September next, and continues sixteen weeks as formerly.

New-York Hospital.—Prof. A. C. Post has resigned his appoint-

ment as one of the attending surgeons in this institution, and Prof. W. H. Van Buren has been appointed his successor.

University of Pennsylvania.—We learn with pleasure that Dr. Joseph Leidy has been appointed to the Chair of Anatomy, rendered vacant by the death of Dr. Horner. Dr. L.'s reputation as an anatomist, is only equalled by his diligent labors in the histological department of medical science in general.

OBITUARY.

Death of William Beaumont, M. D.—Died at his residence in St. Louis, on the 25th of April last, in the 68th year of his age. Dr. Beaumont was a native of Lebanon, Connecticut, where he was born in 1785. In 1812, after studying medicine at St. Albans, Vermont, for two years, he joined the Sixth Infantry, with the appointment of Assistant-Surgeon. For more than twenty years he was a member of the medical staff of the regular army, being stationed at various points on the northern frontier, and through the war of 1812, with distinction —being present, among other occasions of interest, at the capture of Fort George, in May, 1813. In 1830, he was stationed at Jefferson Barracks, and afterwards in the Arsenal at St. Louis, taking up his residence in this city about 1834. Two or three years later he resigned from the army, and subsequently has resided constantly in St. Louis, enjoying an extensive practice and high professional reputation up to the period of his late illness.

Dr. Beaumont is widely and most honorably known in the literature of our profession by his "Physiology of Digestion and Experiments on the Gastric Juice"—based on, and containing an account of experiments conducted by himself upon a Canadian (Alexis St. Martin), whom he attended at Michilimackinac, in 1825. The work has been reprinted in Great Britain, France, and Germany, with the highest commendations from the profession, and has become an acknowledged authority in matters where speculation had hitherto taken the place of observation.

Dr. Beaumont had lived in St. Louis for many years, engaged in arduous professional duties, and wherever he was known, it was as the kind-hearted, generous gentleman. In his social relations, he was most happy, diffusing at all times cheerfulness and contentment to those around him.

Death of G. W. Richards, M. D.—Dr. Richards died at Dubuque, Ia., on the 22d of April, aged 53 years. He was for a short time connected with the Rush Medical College in Chicago, as one of its Professors, and afterwards became Professor of the Theory and Practice of Medicine, in the Medical College at La Porte, Ind. At a later period, he assisted in organizing a Medical School at Rock Island, and but two weeks before his death, was elected President of the Northwestern Medical Society, organized at Dubuque.